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IN THE

Supreme Court of the United States

OCTOBER TERM, 1983

STRUTHERS PATENT CORPORATION,
STRUTHERS WELLS CORPORATION and
STRUTHERS SCIENTIFIC & INTERNATIONAL CORPORATION,

Petitioners,

–against–

THE NESTLE COMPANY, INC.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

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QUESTIONS PRESENTED

1. Where the District Court has granted an unprecedented summary judgment of invalidity with respect to ten United States patents by adopting the arguments of counsel for the moving party with respect to the meaning of the patents and prior art and rejecting the sharply divergent views thereof given by a patentee and expert in uncontroverted opposing affidavits, and the Court of Appeals has affirmed without opinion, have the limits of established summary judgment procedure been so seriously exceeded as to call for the exercise by this Court of its supervisory power under Rule 17.1(a) of the Supreme Court Rules to forbid such encroachments on the right of trial by jury?

2. May a court, on motions for summary judgment of invalidity of ten patents, after deciding that no expert testimony was required to understand the technology involved, choose to disbelieve and disregard the uncontroverted sworn statements of a patentee and expert and make its own contrary determinations with respect to the nature and scope of the patents, the prior art and the level of skill in the art, and hold the patents invalid as being directed to obvious and unpatentable subject matter?

3. May a court, on a motion for summary judgment, dispense with inquiring into the evidentiary facts relating to the level of ordinary skill in the art on the grounds that the descriptions of the processes and apparatus in ten patents were readily understandable to it and employed concepts with which it was familiar?

4. (a) May a sale of apparatus for performing freeze concentration properly be held under 35 U.S.C. § 102(b) to invalidate a process patent claiming a unitary process for freeze concentration combined with freeze drying?

(b) May a sale of apparatus for performing freeze concentration properly be held under 35 U.S.C. § 102(b) to invalidate

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a patent claiming a system of apparatus for freeze concentration combined with freeze drying?

STATEMENT PURSUANT TO SUPREME COURT RULES 28 AND 28.1

The parties to the proceedings are those listed in the caption.

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–against–

THE NESTLE COMPANY, INC.,
Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

OPINIONS BELOW

The opinion of the District Court for the District of New Jersey is reported in 558 F.Supp. 747. It is also reproduced in the Appendix at A31 through A508.* The Judgment Order of the Court of Appeals has not yet been reported. It appears at A1.

JURISDICTION

The judgment of the Court of Appeals was entered on March 28, 1983. A timely petition for rehearing in banc (A509) was filed by Petitioners on April 11, 1983 and denied by the Court

* Appendix to this Petition for a Writ of Certiorari so indicated herein.

in an order entered on April 25, 1983 (A3). The jurisdiction of this Court is invoked pursuant to 28 U.S.C. § 1254(1).

CONSTITUTIONAL PROVISIONS AND STATUTES INVOLVED

(a) The federal statutory provisions involved, in pertinent part, are:

Title 35, United States Code

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless—

* * *

(b) the invention was patented or described in a printed publication in this or a foreign country, more than one year prior to the date of the application for patent in the United States, or

* * *

§ 103. Conditions for patentability; nonobvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

(b) Rule 56(c) of the Federal Rules of Civil Procedure, which provides:

(c) Motion and Proceedings Thereon.

> The motion shall be served at last 10 days before the time fixed for the hearing. The adverse party prior to the day of hearing may serve opposing affidavits. The judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. A summary judgment, interlocutory in character, may be rendered on the issue of liability alone although there is a genuine issue as to the amount of damages.

STATEMENT OF THE CASE

This is a suit for patent infringement in which Petitioners, Struthers Patent Corporation, Struthers Wells Corporation and Struthers Scientific & International Corporation ("Struthers"), have charged Respondent, The Nestle Company, Inc. ("Nestle"), with infringement of ten United States patents relating to processes and apparatus for freeze concentration useful in the manufacture of instant coffee.*

The District Court, in an unprecedented and startling decision, held all ten patents invalid on motions by Respondent for summary judgment.** What makes the decision so unusual, and calls for this Court to exercise its supervisory power under Rule 17.1(a) of the Supreme Court Rules, is not the number of patents involved, but the number of *facts* which the District Court found were not in issue despite affidavits of Petitioners' expert to the contrary.

The patents contain forty-nine claims (each an individual invention); the claims were invalidated on at least three separate grounds, obviousness (35 U.S.C. § 103), prior sale or offer for

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* The patents in suit are reproduced in the appendix at A 684-723.

** The patents were grouped into four groups and a separate motion was brought for each group.

sale (U.S.C. § 102(b)), and insufficiency of disclosure (35 U.S.C. § 112). In most cases, multiple grounds for invalidity were cited. The issues relating to prior sale turned on a determination of such questions as whether the inventions were completed at the time of the alleged sales and whether apparatus sold for freeze concentration was *intended* to be combined with apparatus for freeze drying, which was not sold. The issues of obviousness were determined by the District Court without the aid of expert testimony and in direct contradiction to the sworn statements of Petitioners' expert in opposition to the motions.

And all of these factual determinations were made by the District Court without the aid of any testimony or discovery *in this case* on the part of the moving party, Nestle. All of the documentary evidence was taken from other, earlier cases between Struthers and General Foods Corporation ("General Foods").* Nestle offered no affidavits other than those of its counsel and the District Court chose to accept the arguments of Nestle's counsel and reject the opposing sworn statements of Struthers' expert and patentee, Neophytos Ganiaris.

Furthermore, the District Court judged Ganiaris' credibility on the basis of a reading of the bare affidavits *and found him to have sworn falsely* (A399). Ganiaris was not given the opportunity to be heard in open court and did not have his deposition taken on the statements made in his affidavits. The basis for the District Court's judgment with respect to credibility was a comparison of Ganiaris' sworn statements with largely unexplained documentation from the Struthers-General Foods cases.

The patents themselves are commercially substantial. At the time the lawsuit was commenced, Struthers had sold two freeze concentration plants to General Foods, two plants to a coffee company in Germany and a plant to a company in Brazil (A540-541). General Foods had also paid $1,400,000 to Struthers for a fully paid license under six of the patents in settlement of a lawsuits between them.

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* *General Foods Corporation* v. *Struthers Scientific & Int. Corp. and Struthers Wells Corporation*, Civil Action Nos. 3566, 3665 and 3666, U.S. District Court for the District of Delaware.

The Court of Appeals has sanctioned the judgment of the District Court, and adopted it as the law in the Third Circuit. No clue was given by the Court of Appeals, which affirmed without opinion, as to why it has chosen, at this time, to ignore such precedent in that Circuit as *Tomalewski* v. *State Farm Life Ins. Co.*, 494 F.2d 882, 884 (3rd Cir. 1974), which held that summary judgment was a "drastic remedy" which "may not be granted where there is the *slightest doubt* as to the facts," or its recent decision in *Federal Laboratories, Inc.* v. *Barringer Research Limited*, 696 F.2d 271, 274 (3rd Cir. 1982) which held that a court "*is [not] . . . at liberty to disbelieve the good faith statements of experts contained in depositions and presented by the non-moving party.*"*

This Court has been asked to grant a writ of certiorari to the Court of Appeals for the Third Circuit because the result reached below is dangerous and far exceeds the limits of summary judgment procedure. If allowed to stand, it could encourage other courts to adopt the practice of the courts below to cut off a litigant's right to trial by jury. This Court has admonished the lower courts that summary judgment is authorized under Rule 56, Fed. Rules Civ. Proc. "only where the moving party is entitled to judgment as a matter of law, where it is quite clear what the truth is, . . . [and where] no genuine issue remains for trial . . . [for] the purpose of the rule is not to cut litigants off from their right of trial by jury if they really have issues to try." *Poller* v. *Columbia Broadcasting System, Inc.*, 368 U.S. 464, 467 (1962), citing *Sartor* v. *Arkansas Natural Gas Corp.*, 321 U.S. 620, 627 (1944).

This case also presents a subsidiary, but precedentially important question with respect to whether a sale of *apparatus* which is capable of performing only one major part of a unitary *process* comprising two major parts, may properly be held to constitute a prior sale or offer for sale of the patented process under 35 U.S.C. § 102(b). The District Court held in the affirmative. It also held that a sale of such apparatus could constitute a § 102(b) sale of the entire apparatus required for performing the com-

* Emphasis is added unless otherwise noted.

plete process. These determinations have gone far beyond the present state of the law on the subject of the "on sale" bar under § 102(b). The cases hold that a patent covering a process is not infringed by the manufacture of a machine used in the process. *B.B. Chemical Co.* v. *Ellis*, 117 F.2d 829, 833-834 (1st Cir. 1941); aff'd. 314 U.S. 495 (1942). Furthermore, for purposes of § 102(b), the sale of apparatus must be considered for what it is, *not for what it may be combined with. Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336, 344-345 (1961).

Thus, the Court is presented here with questions which are important both with respect to the administration of justice under the Federal Rules of Civil Procedure relating to summary judgment and to the proper scope of the "on sale" provision of 35 U.S.C. § 102(b), which should be settled by this Court pursuant to Rule 17.1(c) of the Supreme Court Rules.

History of The Struthers FreCon System

1. Early Work at Struthers

The history of the development of the patented inventions and of the relationship between Struthers and General Foods and the lawsuits between them is significant because all of the evidence on which the District Court granted summary judgment of invalidity was taken from the files of the Struthers-General Foods lawsuits and submitted by Nestle in its motions as exhibits to the affidavits of counsel.

Struthers Wells Corporation, parent of the Struthers companies herein, is a manufacturer of crystallizers and other process equipment for the chemical, petroleum and electrical utilities industries (A538). In 1958, it began to apply its know-how in controlled crystallization to the broad field of ice crystallization (A539) and was later awarded United States government contracts to carry out work on freeze desalination of water (A65).

In 1962, Struthers initiated studies at its Warren, Pennsylvania laboratory to determine whether its ice crystallization processes could be used for food product and beverage applications. Orange juice, vinegar, apple juice, tea and coffee extract were freeze concentrated in the laboratory using an ice crystallization

process for various food companies including General Foods and Nestle (A540).

In late 1963, General Foods expressed an interest in the process for use both in its BirdsEye Division for concentrating orange juice and by its Maxwell House Division for concentrating coffee extract. BirdsEye Division asked if Struthers could demonstrate the process in an operating plant of significant size, rather than on the laboratory scale then available in Warren.

Struthers designed and assembled a demonstration freeze concentration plant which it mounted on a railroad flat car so that it could be moved from place to place. The activities concerning General Foods' use of the mobile plant are of significance because the District Court below relied upon them as establishing the invalidity of a number of the patents in suit. It did so on the basis of unexplained documents from this period.

2. *The Mobile FreCon Plant*

The mobile freeze concentration (FreCon) plant was shipped for the first time in early April, 1964 to General Foods' BirdsEye plant at Winter Haven, Florida for testing on orange juice. While it was there and after testing had begun on orange juice, persons at General Foods' Maxwell House Division at Hoboken, New Jersey and White Plains, New York, requested that test runs also be made on coffee extract. Coffee extract prepared by General Foods was shipped in a refrigerated railroad car to Winter Haven from Tampa, Florida and was successfully concentrated in the mobile plant although much difficulty was encountered at the time with foam and insoluble precipitates (wax).

When wax was encountered in connection with the mobile plant at Winter Haven, in May, 1964, a stop-gap measure used at the time was to pass the extract through a crude filter consisting of layers of cheesecloth.

The District Court held that the removal of wax at that time by filtering it through cheesecloth demonstrated the simplicity and obviousness of the dewaxing process and constituted a prior offer for sale, sale and use of the (Reimus, et al.) patents relating

to dewaxing and prior offer for sale and sale of the (Muller) patents for freeze concentration under 35 U.S.C. § 102(b). The Court also held that it proved the falsity of Ganiaris' affidavit, in which he stated that "prior to January, 1965, General Foods did not even appreciate that a dewaxing operation was necessary." (A399). This judgment of credibility was not only improper under the rules for summary judgment but the District Court was wrong in so holding as the facts show.

3. *Struthers Contracts With General Foods*

From early January, 1964, in a separate but parallel development to its mobile plant activities, Struthers' personnel were engaged in designing a freeze concentration system for installation by the Maxwell House Division of General Foods at Hoboken, New Jersey. General Foods entered into a contract with Struthers, on August 12, 1964, for the purchase of freeze concentration equipment. The contract provided for *testing and development work* on freeze concentration of coffee and for nondisclosure and ownership of developments made in the course of the work performed under the contract.

The fact that the freeze concentration process was in a developmental state at the time in question, should have raised serious doubts in the mind of the District Court with respect to whether they were, in fact, completed as required for a determination of invalidity under 35 U.S.C. § 102(b). If Petitioners had been given an opportunity to present evidence of this type at trial, there might have been a different outcome below. It is for that very reason that courts have been, and should be, reluctant to grant summary judgment where there is the slightest question as to the facts.

Equipment for the construction of the freeze concentration plant began to arrive at Hoboken in about November or early December, 1964 and the plant was started up shortly thereafter, in January, 1965 (A 675-683). When coffee extract was fed to the system for the first time on February 4, 1965, a number of operating difficulties arose including excessive foaming and wax formation which caused plugging of the centrifuges used in the system (A 677-678). Dewaxing equipment was installed for the

first time at Hoboken in early March, 1965 and by late March or early April, 1965.

The testing and development work performed by Struthers in connection with the use of the mobile FreCon plant at Winter Haven, Florida for BirdsEye Division and in the construction and development of freeze concentration systems for Maxwell House at Hoboken pursuant to the contract of August 12, 1964 and a later contract of September 30, 1965, led to several related lawsuits between Struthers and General Foods in which Struthers charged General Foods with infringement of six of its patents, misappropriation of trade secrets and other unfair practices. These lawsuits continued unabated from 1968 to 1972 when the parties entered into a settlement agreement pursuant to which General Foods took a fully paid license under the patents.

The numerous and interrelated facts with respect to Struthers' development of freeze concentration processes and apparatus, the testing and building of such systems for General Foods and the prior art and the work of the inventors and others in the field, are the facts on which the summary judgment motions rest. They are disclosed in the discovery documents and depositions taken by the parties in the General Foods lawsuits and were appended to the affidavits of counsel for Nestle and argued in the motions for summary judgment.

Although these numerous facts were subject to interpretation, and although they were of paramount importance herein, no testimony was taken, in this case, to explain them. This Court held in *Adickes* v. *S.H. Kress & Co.*, 398 U.S. 144, 176 (1970) that "[T]he advantages of a trial before a live jury with live witnesses, and all the possibilities of considering the human factors, *should not be eliminated by substituting trial by affidavit and the sterile bareness of summary judgment.*"

The Proceedings Below

Struthers Patent Corporation commenced the present action against Nestle on April 13, 1972. It charged Nestle with infringement of ten United States patents, including the six pat-

ents which it had previously asserted against General Foods, and made a demand for a jury trial.

Nestle responded by alleging invalidity and noninfringement of Petitioners' patents and included counterclaims for a declaratory judgment with respect to such allegations and for unfair competition.* Struthers Wells Corporation and Struthers Scientific & International Corporation were added by Nestle as defendants on the counterclaims.

The District Court held that the case presented no genuine issues of fact and granted summary judgment against Petitioners on the grounds that the patents were obvious (35 U.S.C. § 103), had been sold or offered for sale more than one year prior to their filing date (35 U.S.C. § 102(b)), and failed to contain a full, clear and exact description of the subject matter claimed (35 U.S.C. § 112) (A31-508).

The Court of Appeals heard oral argument on March 1, 1983. On March 28, 1983, the Court of Appeals affirmed the judgment of the District Court without opinion (A1). A petition for rehearing in banc was denied by the Court of Appeals on April 25, 1983 (A3).

REASONS FOR GRANTING THE WRIT

The District Court, with the sanction of the Court of Appeals, has far exceeded the limits of summary judgment procedure and has preempted Petitioners' right of trial by jury. It has set a precedent which, if allowed to stand, will seriously erode the right of litigants to a trial and create confusion with respect to the "on sale" bar under 35 U.S.C. § 102(b).

The District Court:

1. *resolved* numerous issues of material fact: it did so by first deciding that no expert testimony was required to understand

* The counterclaim for unfair competition has not been advanced beyond the pleading stage and remains to be discovered and tried after final adjudication of the instant Rule 54(b), Fed. Rules Civ. Proc., appeal.

the patents and then, on the basis of its own analysis of the patented inventions, the level of skill in the art, and the nature and scope of the prior art, holding that the patents are directed to obvious and unpatentable subject matter;

2. held six of the patents invalid for prior sale or offer for sale under 35 U.S.C. § 102(b) based on documents which were unexplained by any testimony and *controverted* by affidavits which Struthers submitted in opposition to the motion; in this regard the Court misapplied the law with respect to the "on sale" defense by holding that a sale of apparatus which was *not* capable by itself of performing a substantial and necessary part of the patented process may constitute an invalidating prior sale under § 102(b); and

3. judged the credibility of a witness whose affidavits were submitted in opposition to the motions for summary judgment. In doing so, the District Court chose to disregard a substantial and critical portion of the evidence submitted by Struthers on such determinative issues as the "on sale" defense, the nature and scope of the patented inventions and of the prior art. As a result, the District Court failed to heed this Court's instruction that "*On summary judgment the inferences to be drawn from the underlying facts contained in such materials [affidavits, exhibits, depositions submitted below] must be viewed in the light most favorable to the party opposing the motion.*" *United States* v. *Diebold, Inc.*, 369 U.S. 654, 655 (1962).

I. Certiorari Should Be Granted To Establish The Limits Beyond Which Summary Judgment May Not Be Substituted For A Trial

By deciding as complicated and involved a case as this on summary judgment, the District Court had to make certain factual findings or assumptions on which to support the overall decision. It did so by first deciding that no expert testimony was required to understand the subject matter of the patents and prior art:

> "I have concluded, however, *that this is a case where the opinion of experts is not necessary*, and that I can

> and should decide the § 103 issue on the basis of the undisputed facts which are in the record. *The technology involved is not complex.* We are not dealing with difficult chemical, physical, mathematical or electronic concepts or devices. Rather, the patents involved (the '007 and '522 patents and also the other eight patents in suit) *are readily understandable and concern processes and devices which employ familiar concepts*". (A191)

Having decided that it understood the technology involved and was capable of making the determinations required by this Court in *Graham* v. *John Deere & Co.*, 383 U.S. 1 (1966), the District Court resolved the factual inquiries mandated by that case.

> "As an examination of the prior art record discloses, this subject matter is a well ploughed field. For decades patents have been filed, articles written, and research and development undertaken in every phase of freeze concentration processes and equipment. The same record discloses that the skill in the art by this late date is very high. *Not only is the skill in the art high, the subject matter is relatively simple, easily understandable by a person having limited or no technical background in this field.*" (A52-53)

Under 35 U.S.C. § 103, Congress set out a practical test of patentability in the form of three factual inquiries, the third of which entails resolving the level of ordinary skill in the pertinent art.

Since the decision of this Court in *Graham* v. *John Deere & Co.*, *supra*, the circuit courts have recognized that the determination of the level of skill in the art to which the subject matter of the patent in suit pertains involves several factual elements. The Court of Appeals for the Federal Circuit lists six factors which may be relevant in ascertaining the level of ordinary skill in the art as follows*:

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* *Orthopedic Equip. Co.* v. *All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1382 (Fed.Cir. 1983).

> (1) The educational level of the inventor; (2) the various prior art approaches employed to solve the problem; (3) the types of problems encountered in the prior art; (4) the rapidity with which innovations were made in the field of the patent in suit; (5) the sophistication of the technology involved in the field; and (6) the educational background of those actively working in the field.

Nowhere in the prolix opinion of the District Court were any of the foregoing factors utilized to ascertain whether a genuine issue of fact existed with respect to the level of ordinary skill in the art of freeze concentrating comestible liquids. The Court's response to petitioners' strenuous argument that the third factual inquiry could not be made without the assistance of expert testimony; that it had done so in the form of an affidavit of Ganiaris; that respondent Nestle had submitted nothing in opposition; and that even if Nestle did submit opposing affidavits on the subject to contradict Ganiaris' sworn statements, factual issues would persist precluding summary judgment, was that Petitioners' points did not present an obstacle to summary judgment because ". . . this is a case where the opinions of experts is not necessary and . . . I can and should decide the § 103 issue on the basis of the undisputed facts which are in the record" (A191). In other words, the District Court resolved the ordinary level of skill in the art by completely disregarding the Petitioners' affidavit evidence on the matter and deciding the issue for itself based on its bare reading of the prior art patents and other references.

In thus dispensing with the third factual inquiry promulgated by the Congress and mandated by this Court, the District Court committed basic error that should not be allowed to stand to confound future patent litigations. Petitioners submit that the procedure which the District Court followed is not only an aberration of long accepted principles of summary judgment but also of the fundamental approach to an analysis of patent validity set out in the patent statutes and mandated by this Court for determining the non-obviousness or obviousness of a United States patent. This is a case which truly warrants the attention of this Court for the grave reason that a District Court should

not be permitted to disregard good faith affidavits submitted in opposition to a motion for summary judgment, especially where such affidavits are directed to the level of skill in the art, the affiant is a person skilled in the art and the District Court is not such a person. *Federal Laboratories, Inc.* v. *Barringer Research, Ltd., supra.*

A practical, cogent and compelling demonstration of the need for expert assistance in understanding and evaluating the patents in suit and prior art in this case is to be found in the decision of Judge Latchum in *Struthers Scientific & Int. Corp.* v. *General Foods Corp.*, 314 F.Supp. 313, 315 (D. Del. 1970), where the court held on a motion for summary judgment involving *three of the same patents in suit here* (patent Nos. 3,381,302; 3,404,007; and 3,449,129):

> . . . "Were this Court skilled in the art it might be a simple matter to answer the questions required by the *John Deere case, but this Court frankly admits that it lacks that special knowledge which would permit it to read the patents in suit so understandably, in terms of obviousness to a man of ordinary skill in the art, on the basis of the present record.* This determination must await a fuller treatment of these conditions by *expert testimony*, now lacking in the present record." *Struthers Scientific & Int. Corp.* v. *General Foods Corp.*, 314 F.Supp. 313, 315 (D. Del. 1970)

It is inexplicable to Petitioners why three of the patents in suit could be understood without difficulty by the District Court below, but not by the District Court in Delaware. It reflects, however, in practical application, the dangers inherent in the unrestricted use of summary judgment procedure. By making determinations, which it should not otherwise have made without explanatory testimony, the District Court below was able to hold the patents invalid for obviousness under 35 U.S. § 103 while the District Court in Delaware was not.

It is apparent that if the decision below is left undisturbed, the district courts and courts of appeal will have been given a

substantial and stunning precedent with which to foreclose a litigant's right of trial by jury.

This Court has cautioned against such a result in *Poller* v. *Columbia Broadcasting, supra:*

> "This rule [Rule 56(c), Fed.Rules Civ.Proc.] authorizes summary judgment 'only where the moving party is entitled to judgment as a matter of law, where it is quite clear what the truth is . . . [and where] no genuine issue remains for trial . . . [for] the purpose of the rule is not to cut litigants off from their right to trial by jury if they really have issues to try.' " [Citing *Sartor* v. *Arkansas Natural Gas Corp.*, 321 U.S. 620, 627 (1944)].

II. Certiorari Should Be Granted To Prevent An Unprecedented And Unwarranted Extension Of The "On Sale" Bar Under 35 U.S.C. § 102(b)

The District Court summarily held six of the ten patents in suit invalid on the grounds that their subject matter had been sold or placed on sale more than one year prior to the respective filing dates of the applications that led to such patents. Petitioners contend that such holding constitutes an unwarranted extension of the strictures of § 102(b) and error as a matter of law.

1. Muller '007 and '522 Patents

The Muller patents, No. 3,404,007 (A 716) and No. 3,495,522 (A 720), claim a process and apparatus, respectively, for the freeze concentration of coffee extract in combination with a freeze drying step. The applications for these patents were held entitled to a filing date of January 28, 1966. In terms of prior sale under 35 U.S.C. § 102(b), the critical date for these patents is January 28, 1965 (A224).

The District Court accepted as true and the Circuit Court affirmed that the only sale by Struthers to General Foods prior to the critical date was the Struthers-General Foods contract of August 12, 1964 (A226-227). The District Court also accepted as

true that the contract did not provide for the sale of any freeze drying apparatus, process, technology or know-how (A226-227).

The District Court held that Struthers had made offers for sale of freeze concentration processes and equipment prior to the critical date with the "expectation" that it would be used by the purchaser in conjunction with a freeze drying step (A227). The District Court held and the Third Circuit affirmed that this constituted a § 102(b) statutory bar to patentability (JA 145).

An essential inquiry in connection with the "on sale" bar under § 102(b) relates to the degree of identity required between that which is placed on sale and the patented invention. Although exact identity between the two is not required, there must exist at least *substantial identity* between them.

In *DeLong Corporation* v. *Raymond International, Inc.*, 622 F.2d 1135, 1141 (3rd Cir. 1980), the Court held:

> "In order to sustain a finding of invalidity under the 'on sale' bar of 35 U.S.C. § 102(b), it must be shown that the alleged invalidating sale was of a device *substantially identical* to that claimed under the terms of the patent. See *Red Cross Manufacturing Corp.* v. *Toro Sales Co.*, 525 F.2d 1135 (7th Cir. 1975)."

The *Red Cross* case, *supra*, at 1141-42, cited in *DeLong*, *supra*, sets forth the test for substantial identity:

> ". . . *a necessary determination must be whether the item placed 'on sale' sufficiently embodied the invention described in the patent in suit* to invoke the bar of § 102(b). . . . Exact identity is not required as long as the invention is essentially completed at the time of the invalidating sale. . . ."
>
> * * *
>
> "In order for the 'on sale' bar to apply, *the patent claims at issue must describe the invention offered for sale*. . . ."

A sale of the FreCon apparatus would not, by itself, constitute a § 102(b) sale of the process patent because it does not have

sufficient identity with the invention claimed in the patent to infringe.

The First Circuit, in *B.B. Chemical Co.* v. *Ellis*, 117 F.2d 829, 833-34 (1st Cir. 1941), aff'd. 314 U.S. 395 (1942), held that a patent covering a process is not infringed by the manufacture of a machine for use in the process:

> ". . . *The manufacture of the machine by the defendants is not an infringement of the plaintiff's process patent.* . . . 'So distinctively [sic] and separate in the patent law are process and apparatus for utilizing such process that where, after a patent for a process by one invention, a second inventor might patent a novel apparatus for utilizing the process. . . . *It will therefore be evident that the test of process infringement is not the similarity of apparatus, but rather whether the apparatus, no matter what its form, utilizes the process.*' . . ."

In *Plax Corporation* v. *Precision Extruders*, 239 F.2d 792, 795 (3rd Cir. 1957), the Third Circuit agreed that the "test of infringement of a process patent is whether the . . . machine employs every essential of the patented method." The freeze concentration apparatus sold by Struthers is incapable of performing freeze drying. It *cannot* infringe the patented process for freeze concentration in combination with freeze drying. It lacks sufficient identity to the claimed invention to constitute a § 102(b) sale thereof.

In *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 528 (1972), *reh. den.* 409 U.S. 902 (1972), the Court held:

> ". . . that 'a combination patent protects only against the operable assembly of the whole and not the manufacture of its parts."

The District Court held that the *combination* of freeze concentration apparatus and freeze drying apparatus was "the *essence* of the alleged . . . inventions" (JA 144). But Struthers never sold freeze drying apparatus to anyone.

This Court, in *Aro Mfg. Co.* v. *Covertible Top Replacement Co.*, 365 U.S. 336, 344-45 (1961), held:

> ". . . if anything is settled in the patent law, it is that *the combination patent covers only the totality of the elements in the claim and that no element, separately viewed, is within the grant.* See the *Mercoid* cases, *supra*, 320 U.S., at 667; 320 U.S., at 684. *The basic fallacy in respondent's position is that it requires the ascribing to one element of the patented combination the status of patented invention in itself.* Yet this Court had made it clear in the two *Mercoid* cases that *there is no legally recognizable or protected 'essential' element, 'gist' or 'heart' of the invention in a combination patent.* . . ."

Since Struthers did not sell to General Foods the complete apparatus claimed in the '422 patent, and since the entire process claimed in the '007 patent could not have been performed by the FreCon apparatus alone, it could not have made a § 102(b) sale of the inventions claimed in these patents to General Foods at any time.

2. *The Reimus Dewaxing Patents*

The Reimus et al. patents (U.S. patents Nos. 3,381,302; 3,449,129; 3,632,353; and 3,474,723) relate to the removal of insoluble precipitate materials (wax) which form in coffee extract when it is cooled or allowed to stand for various periods of time. These materials, when present in the extract, interfere with the process of removal of ice crystals during freeze concentration. The problem is that "continued exposure to low temperature will also cause the formation of a non-waxy particulate precipitate. This particulate precipitate forms after the formation of insoluble tars, waxes and gums . . . exposure to low temperatures sufficient to cause this particulate precipitate should be avoided because it is tantamount to degradation of the coffee extract. The resulting concentrated product . . . is not as satisfactory to the consumer. . . ." Thus, if one were merely to precipitate material from coffee extract without regard to tem-

perature or holding time, the resultant coffee product would be unsaleable.

The District Court held that the processes and apparatus claimed in the Reimus patents were placed on sale, sold and used in May, 1964 when Struthers was demonstrating its FreCon mobile plant to General Foods in Winter Haven, Florida. The Court held it had become "obvious [at that time] that it was necessary to remove the tars which plugged the centrifuge during the freeze concentration process" (A400). The removal of waxy materials was accomplished by pouring the coffee extract through cheesecloth to filter it before freeze concentrating.

As the District Court said:

> "The question becomes whether the indisputable facts as to the devising and use of dewaxing procedures in May, 1964, when Struthers was demonstrating its FreCon unit, and General Foods' subsequent (pre-December 2, 1964) decision to use such procedures in connection with the freeze concentration equipment purchased from Struthers, is an invalidating sale or use under § 102(b). . . ." (A401)

The District Court decided that the dewaxing inventions were "very simple and obvious" and held that they were offered for sale, sold or used during the test runs at Winter Haven in May, 1964. The Court notes in its opinion "how easily" the problem was solved at that time:

> *"I have concluded, however, that the entire subject matter of the Reimus patents involves very simple (and I later find obvious) concepts.* The skill in the applicable art is very high. *(Note how easily the persons working on the 'FreCon' unit in May, 1964, were able to solve the problem of gummy, waxy concentration clogging the centrifuge during the freeze concentration process.)* There can be no doubt that one skilled in the art *(and also one having only negligible skill in the art)* can adjust the various factors of temperature, concentration of extract, and holding time

to obtain concentrated coffee extract having the desired flavor." (A407-408)

This Court, in *Poller* v. *Columbia Broadcasting, supra*, has held at page 473:

> "We believe that summary procedures should be used sparingly in complex antitrust litigation where motive and intent play leading roles, the proof is largely in the hands of the alleged conspirators, and hostile witnesses thicken the plot. It is only when the witnesses are present and subject to cross-examination that their credibility and the weight to be given their testimony can be appraised. Trial by affidavit is no substitute for trial by jury which so long has been the hallmark of 'even handed justice.' "

Similar issues relating to motive and intent are present with respect to the holding of invalidity of the Reimus et al. patents for prior sale or offer for sale under 35 U.S.C. § 102(b). The questions relating to whether these patented inventions were in fact placed on sale are questions of fact which were decided by the District Court in the affirmative. But the District Court decided these fact questions after holding that the statements contained in the affidavits of Petitioners' patentee and expert witness, Ganiaris, were *untrue*. To hold that Mr. Ganiaris swore falsely in his affidavits is, at the least, unfair considering he had never been cross-examined by Nestle with respect to the affidavits nor was he ever given the opportunity to testify on the subject in open court. The District Court judged Ganiaris' credibility on the basis of documents taken from the Struthers-General Foods lawsuits as interpreted and described by counsel for Nestle (A383-384, A399). If Ganiaris had been given an opportunity to testify at trial, the outcome might have been different because his first-hand observations of what took place during the time period in question were much more relevant to the issues than the arguments of Nestle's counsel.

In his affidavit Mr. Ganiaris said that "prior to January, 1965, General Foods did not even appreciate that a dewaxing operation was necessary" (A633). The District Court found this state-

ment to be "patently false" (A399). The Court based this finding on Struthers' activities at Winter Haven in May, 1964 when coffee extract was filtered through cheesecloth; on Struthers' answer to General Foods' Interrogatory 6 in which that incident was described; and on a memorandum of Martin Gottesman, a General Foods employee, dated September 23, 1964, more than a year after the event, describing the necessity of prefiltering coffee extract in the Struthers mobile unit (A401-403).

It was plainly improper for the District Court to assess as false Ganiaris' statement on so subjective a matter as what General Foods "appreciated." Ganiaris was Struthers' project engineer in connection with the design, construction and operation of the freeze concentration plant which it built for Maxwell House at Hoboken, New Jersey. He was in a position to know whether General Foods truly "appreciated" the necessity for a dewaxing operation. The facts, contrary to the holding of the District Court, support Mr. Ganiaris and demonstrate that General Foods indeed did *not* fully "appreciate" the necessity for a dewaxing step prior to January, 1965.

Ganiaris knew that dewaxing equipment was not included in the freeze concentration plant which Struthers designed and built for General Foods pursuant to the contract of August 12, 1964 (A633). It was not until after the plant was started up in January, 1965 that the full extent of the problem with wax became appreciated (A633). The first recognition of this problem in a real sense occurred in February, 1965 when runs on coffee extract were commenced and it was not until at least March of that year that it was corrected.

The Struthers mobile FreCon plant had no dewaxing facilities. If the wax problem was "appreciated" by General Foods before January, 1965 why was it not included in the contract, or at least in the FreCon plant installed at Hoboken?

A memorandum from Ganiaris to Struthers' employee, J.G. Muller, dated February 15, 1965 entitled "Subject: Maxwell House FreCon Unit," (A 675) reflects that the initial freeze concentration test runs on sugar solutions were satisfactory to Maxwell House management through the week of January 24.

It was not until later that the wax problem arose as the following records show:

". . . The first stage was operated for 2 hours on Feb. 4 with coffee extract. *The unit was shut-down due to foam and wax.*

On February 5, a 4-hour run was made and the first stage was shut-down due to the failure of one flexible connection on the crystallizer. However, a thick layer of wax was observed on the centrifuge screen. There was not any problem with foam. . . .

5. *Week of 2/7—24 hour Day*

a) *On February 8 and 9,* several attempts were made to operate the first stage with coffee extract. However, continuous operation for more than 30 minutes was impossible due to wax.

At a meeting held on 2/10, SSI and MH engineers decided on the following:

* * *

2. Dewax a large quantity of extract and operate the system on a close-cycle until the permanent dewaxing equipment is installed.

3. *Initiate laboratory test on wax by MH-Research Division.*

* * *

4. *SSI will design the dewaxing equipment on the basis of the laboratory data.*

5. Install all dewaxing equipment by the first week of March.

* * *

Conclusions and Recommendations

* * *

> 3. *Wax in the Extract: This problem did not receive the proper attention from either organization, MH or SSI.* Unless the two companies clarify their position with respect to the following points, further delays will occur. . . ."

It is apparent from the Ganiaris memorandum that the dewaxing problem persisted despite continued efforts to effect a solution for at least nine months after the time that the District Court held that it was so "easily" solved and sold to General Foods in May, 1964. The problem with wax continued at General Foods at least until February, 1965 when Ganiaris noted that "This problem did not receive the proper attention from either organization, MH [Maxwell House] or SSI." The inference favorable to Struthers to be drawn from this fact, is that the invention was *not* completed at the time of the alleged sale and, therefore, *not* sold under 35 U.S.C. § 102(b) at the time.

Thus, the District Court not only grossly exceeded the proper limits of summary judgment procedure by drawing factual inferences in favor of the moving party, it compounded its error by judging Ganiaris' credibility on the basis of its reading of the documentary exhibits submitted in connection with the motions. The District Court should not have been permitted to do this. *United States* v. *Diebold, Inc.*, 369 U.S. 654, 655 (1962). Therefore, the Court of Appeals' adoption of the opinion below requires the exercise by this Court of its supervisory power under Rule 17.1(a) of the Supreme Court Rules to prevent further impermissible distortions of summary judgment practice in the federal courts.

CONCLUSION

It is respectfully requested that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Third Circuit.

Respectfully submitted,

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UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

No. 82-5355

STRUTHERS PATENT CORPORATION, a corporation organized and existing under the laws of the State of Texas

v.

NESTLE COMPANY, Inc., a corporation organized and existing under the laws of the State of New York

v.

STRUTHERS WELLS CORPORATION and STRUTHERS SCIENTIFIC AND INTERNATIONAL CORPORATION,

Defendants on Counterclaim

Struthers Patent Corporation, Struthers Wells Corporation, and Struthers Scientific & International Corporation,

Appellants

Appeal from the United States District Court for the District of New Jersey - Trenton
(D.C. Civil Action No. 663-72)
District Judge:
Honorable Dickinson R. Debevoise

Argued March 1, 1983

Before HUNTER, WEIS and BECKER,
Circuit Judges

JUDGMENT ORDER

After consideration of all contentions raised by appellant, it is

ADJUDGED AND ORDERED that the judgment of the district court be and is hereby affirmed. See opinion of Dickinson R. Debevoise, United States District Judge, Civil Action No. 663-72, Joint Appendix Vol. I, A-41, et seq., ___ F.Supp. ___.

Costs taxed against appellant.

BY THE COURT,

s/James Hunter, III
JAMES HUNTER, III, Circuit Judge

Attest:

s/Sally Mrvos
Sally Mrvos, Clerk

Dated: March 28, 1983

UNITED STATES COURT OF APPEALS FOR
THE THIRD CIRCUIT

No. 82-5355

STRUTHERS PATENT CORPORATION, a corporation organized and existing under the laws of the State of Texas

v.

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v.

STRUTHERS WELLS CORPORATION and STRUTHERS SCIENTIFIC AND INTERNATIONAL CORPORATION,

Defendants on Counterclaim

Struthers Patent Corporation, Struthers Wells Corporation, and Struthers Scientific & International Corporation,

Appellants

SUR PETITION FOR REHEARING

Present SEITZ, Chief Judge, ALDISERT, ADAMS, GIBBONS, HUNTER WEIS, GARTH, HIGGINBOTHAM, SLOVITER, BECKER, Circuit Judges

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The petition for rehearing filed by

STRUTHERS PATENT CORPORATION, STRUTHERS WELLS CORPORATION, and STRUTHERS SCIENTIFIC & INTERNATIONAL CORPORATION

in the above entitled case having been submitted to the judges who participated in the decision of this court and to all the other available circuit judges of the circuit in regular active service, and no judge who concurred in the decision having asked for rehearing, and a majority of the circuit judges of the circuit in regular active service not having voted for rehearing by the court in banc, the petition for rehearing is denied.

By the Court,

s/James Hunter
Judge

Dated: April 25, 1983

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

STRUTHERS PATENT CORPORATION,	:	
Plaintiff,	:	
v.	:	Judge Debevoise
THE NESTLE COMPANY, INC.,	:	Civil Action No. 663-72.
Defendant,	:	
v.	:	
STRUTHERS WELLS CORPORATION, and STRUTHERS SCIENTIFIC INTERNATIONAL CORPORATION	:	
Additional Defendants: on Counterclaim.		

FINAL ORDER
(RULE 54(b), F.R.CIV.P.)

Defendant ("Nestle") having moved the Court pursuant to Rule 37, F.R.Civ.P., for an order imposing sanctions against the plaintiff and the defendants on counterclaim (collectively, "Struthers")

for the alleged destruction of relevant documents; the Court having referred said motion to a Special Master for supervision of discovery, an evidentiary hearing, and preparation of a report and recommendations thereon; the Special Master having recommended that the motion be denied; Struthers having moved the Court to confirm the Special Master's report and to deny Nestle's motion for sanctions; and Nestle having filed objections to the Special Master's report and recommendations; and

Nestle having by a series of four motions moved the Court pursuant to Rule 56, F.R.Civ.P., for summary judgment of invalidity and or unenforceability of each of the ten patents asserted against it in this action; and Struthers having filed papers in opposition thereto; and

The Court having considered each of the aforesaid motions, the records made

by the respective parties before the Court and before the Special Master, and the briefs, affidavits and other submissions made in connection therewith, and having heard oral argument thereon; and having on October 13, 1981 filed its written opinion deciding each of the said motions; and

Nestle having thereafter made application pursuant to Title 35, United States Code, Section 285, that this action be determined to be exceptional within the meaning of said statutory provision, and that its reasonable attorney fees and disbursements be awarded to Nestle; and further application for an order to vacate the recommendations of the Special Master and to reconsider the denial of discovery sanctions; and

The Court having denied each of the said two applications on April 5, 1982,

for reasons expressed in the opinions read into the record on that date;

IT IS ORDERED AND ADJUDGED:

1. The Court has jurisdiction of the parties and of the subject matter of this action.

2. The report and recommendations of the Special Master on Nestle's sanctions motion are adopted, modified and/or rejected to the extent and in the manner set forth in the Court's opinions filed October 13, 1981, and read into the record on April 5, 1982 (on reconsideration).

3.(a) Nestle's motion for summary judgment as to Muller United States Letters Patent 3,404,007 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof

by reason of obviousness in view of the prior art, 35 U.S.C. §103; and by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b); and as to claim 5 because it claims merely the product of an old and known process.

(b) Nestle's motion as to Patent 3,404,007 is denied as to the asserted grounds that Struthers is collaterally estopped to relitigate the prior determination of unpatentability of the subject matter claimed in the patent; that the patent fails to comply with the requirements of 35 U.S.C. §112; by reason of Struthers' withholding of material information from the Patent Office; and as to claim 5 that Struthers' acquiescence in the examiner's rejection of the product-by-process claim in the "Muller II" application (Serial No. 738,776) constituted a cancellation, surrender and abandonment of the claim;

(c) The Court does not at this time determine whether Patent 3,404,007 is invalid by reason of anticipation by prior patents or publications, 35 U.S.C. §102(b); or whether, if the process is assumed to be new, claim 5 of said patent is invalid on the grounds that the product is not patentably different from freeze dried soluble coffee described in the prior art, or by reason of failure to comply with Patent Office regulations.

4.(a) Nestle's motion for summary judgment as to Muller United States Letters Patent 3,495,522 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103; and by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b).

(b) Nestle's motion as to Patent

3,495,522 is denied as to the asserted grounds of late claiming, and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,495,522 is invalid by reason of anticipation by prior patents or publications, 35 U.S.C. §102(b); or double patenting and extension of the monopoly of Patent 3,404,007.

5.(a) Nestle's motion for summary judgment as to Ganiaris United States Letters Patent 3,531,295 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103; and by reason of failure to comply with the requirements of 35 U.S.C. §112.

(b) Nestle's motion as to Patent 3,531,295 is denied as to the asserted grounds that the application upon which the patent issued became abandoned by operation of law; that the patent is invalid under 35 U.S.C. §102(f); that the patent is invalid by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b); and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,531,295 is invalid by reason of anticipation by prior patents or publications, 35 U.S.C. §102(b); or whether the patent is invalid under 35 U.S.C. §102(d).

6.(a) Nestle's motion for summary judgment as to Ganiaris United States Letters Patent 3,620,034 is granted, and said Letters Patent are declared to be

invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103.

(b) Nestle's motion as to Patent 3,620,034 is denied as to the asserted grounds that the application upon which the patent issued became abandoned by operation of law; that the patent is invalid by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b); for failure to comply with the requirements of 35 U.S.C. §112; and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,620,034 is invalid by reason of anticipation by prior patents or publications, 35 U.S.C. §102(b); or whether the patent is invalid by reason of double patenting.

7.(a) Nestle's motion for summary judgment as to Reimus. et al. United States Letters Patent 3,381,302 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103; and by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b).

(b) Nestle's motion as to Patent 3,381,302 is denied as to the asserted grounds that Struthers failed to prosecute the application for patent in the manner required by law; that the application upon which the patent issued became abandoned by operation of law; that the patent fails to comply with the requirements of 35 U.S.C. §112; and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,381,302 is invalid by reason of anticipation by prior art patents or publications, 35 U.S.C. §102(b).

8.(a) Nestle's motion for summary judgment as to Reimus et al. United States Letters Patent 3,449,129 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103; by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b); and because the patent claims subject matter given up during prosecution of the application for Patent 3,381,302.

(b) Nestle's motion as to Patent 3,449,129 is denied as to the asserted grounds that Struthers failed to prosecute the application for patent in

the manner required by law; that the application upon which the patent issued became abandoned by operation of law; that the patent fails to comply with the requirements of 35 U.S.C. §112; that the patent is invalid for want of a legally adequate oath or declaration; and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,449,129 is invalid by reason of anticipation by prior art patents or publications, 35 U.S.C. §102(b); or whether the patent is invalid by reason of double patenting.

9.(a) Nestle's motion for summary judgment as to Reimus et al. United States Letters Patent 3,632,353 is granted, and said Letters Patent are declared to be invalid and void as to

each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103; by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b); and because the patent claims subject matter given up during prosecution of the application for Patent 3,381,302.

(b) Nestle's motion as to Patent 3,632,353 is denied as to the asserted grounds that Struthers failed to prosecute the application for patent in the manner required by law; that the application upon which the patent issued became abandoned by operation of law; that the patent fails to comply with the requirements of 35 U.S.C. §112; that the patent is invalid for want of a legally adequate oath or declaration; and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,632,353 is invalid by reason of anticipation by prior art patents or publications, 35 U.S.C. §102(b); or whether the patent is invalid by reason of double patenting.

10.(a) Nestle's motion for summary judgment as to Reimus et al. United States Letters Patent 3,474,723 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103; and by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b).

(b) Nestle's motion as to Patent 3,474,723 is denied as to the asserted grounds that Struthers failed to prosecute the application for patent in the manner required by law; that the application upon which the patent issued

became abandoned by operation of law; that the patent fails to comply with the requirements of 35 U.S.C. §112; that the patent is invalid for want of a legally adequate oath or declaration; and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,474,723 is invalid by reason of anticipation by prior art patents or publications, 35 U.S.C. §102(b); or whether the patent is invalid by reason of double patenting.

11.(a) Nestle's motion for summary judgment as to Howell United States Letters Patent 3,367,126 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of obviousness in view of the prior art, 35 U.S.C. §103.

(b) Nestle's motion as to Patent 3,367,126 is denied as to the asserted grounds that the patent fails to comply with the requirements of 35 U.S.C. §112; that the patent is invalid by reason of prior offer for sale, sale and use, 35 U.S.C. §102(b); and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,367,126 is invalid by reason of anticipation by prior art patents or publications, 35 U.S.C. §102(b).

12.(a) Nestle's motion for summary judgment as to Ganiaris United States Letters Patent 3,636,722 is granted, and said Letters Patent are declared to be invalid and void as to each claim thereof by reason of failure to comply with the requirements of 35 U.S.C. §112; and

because the subject matter was first patented by Struthers in a foreign country prior to the date of the application for patent in this country on an application for patent filed more than twelve months before the filing of the application for patent in this country, 35 U.S.C. §102(d).

(b) Nestle's motion as to Patent 3,636,722 is denied as to the asserted grounds that Struthers is collaterally estopped to relitigate the prior determination of unpatentability of the subject matter claimed in the patent; and by reason of Struthers' withholding of material information from the Patent Office.

(c) The Court does not at this time determine whether Patent 3,636,722 is invalid by reason of anticipation by prior art patents and publications, 35 U.S.C. §102(b); or obviousness in view of

the prior art, 35 U.S.C. §103; or prior offer for sale, sale and use, 35 U.S.C. §102(b).

13. Plaintiff shall take nothing of defendant, and shall have no recovery on its complaint in this action.

14. The complaint in this action is hereby dismissed.

15. The first count of Nestle's counterclaim is hereby sustained.

16. This action is determined not to be exceptional within the meaning of Title 35, United States Code, Section 285, and Nestle's application for an award of its reasonable attorney fees and disbursements is denied, for reasons expressed in the Court's opinion read into the record on April 5, 1982.

17. Nestle shall be allowed costs of this action which shall be taxed when and in the event it ultimately prevails.

IT IS FURTHER ORDERED AND ADJUDGED:

18. The Court having determined that there is no just reason for delay, it is directed that this judgment be entered as a final judgment pursuant to Rule 54(b), F.R.Civ.P. In so directing, the Court has taken account of the following factors and considerations, inter alia:

A. The complaint in this action alleges that the ten Struthers patents identified therein, and dealt with hereinabove, are valid and infringed. The first count of the counterclaim seeks a declaratory judgment that the same ten patents are invalid and not infringed.

B. The Court has determined all ten patents to be invalid, thus disposing of the issues raised by the complaint, which is accordingly dismissed. That determination likewise disposes of the issues raised by the first count of the counterclaim (as a matter of law an invalid patent cannot be infringed), upon which Nestle shall have judgment, and the first count is accordingly sustained.

C. The patent issues presented by the complaint and by the first count of the counterclaim arise exclusively under federal law (Title 28, United States Code, Sections 1338(a), 2201 and 2202). By contrast, the non-patent issues involved in the second count of the counterclaim remaining for future determination arise in part under state law. The second count of the

counterclaim is for unfair competition, including malicious abuse of process.

D. The Court has jurisdiction of the second count under Title 28, United States Code, Section 1338(b) and over the parties thereto. The second count is not facially defective, frivolous or otherwise legally insufficient.

E. Only the plaintiff and the defendant are parties to the complaint and the first count of the counterclaims. Two other parties (both related to the plaintiff) have been joined as additional parties on the second count of the counterclaims. In 1973 the Court (per Lacey, J.) in denying motions by the additional parties to dismiss determined that the Court does have jurisdiction of their persons and that the second count does state a claim

upon which relief can be granted. In 1976 the Court (per Meanor, J.) permitted the additional parties to file a responsive pleading and to demand trial by jury of the second count.

F. An action for malicious abuse of process cannot be heard until the prior action has terminated favorably to the party asserting such abuse. As the Court's 1973 opinion recognizes, however, under Rule 18(b), F.R.Civ.P., such a claim may as a matter of pleading be asserted as a counterclaim before termination of the prior action.

G. The unfair competition and malicious abuse of process issues remaining for determination are separate and distinct from the patent issues which have been determined by this Court. As noted above, additional parties are

involved on those of the former issues raised by the second count of the counterclaims. Moreover, the Court's jurisdiction to determine the malicious abuse of process aspect of the second count depends on Nestle's having prevailed on some or all of the patent issues dealt with in this order. Entry of final judgment on the patent issues would not prevent the remaining non-patent issues in the case from being prepared for trial, as to which discovery is required.

H. The issues remaining for determination, as well as the scope of proof as to the remaining issues, will be materially affected by appellate affirmance, reversal or modification of this order. As one example, should the determination of invalidity of one or more of the ten patents be set aside on

appeal, that matter would have to be determined before proceeding to the issues raised by the second count. As another example, should it be determined on appeal that Nestle is entitled to relief on its sanctions motion, e.g., that designated facts pertinent to the second count be taken as established for purposes of the action in accordance with Nestle's claim, or that Struthers not be permitted to oppose designated claims, the shape and content of future proceedings could be markedly affected.

I. It is accordingly concluded to be evident that appellate review at this juncture will both facilitate and render more orderly the future proceedings in this action. Such review will also minimize the risk of subsequent retrial and reduce the potential burden on both the trial and appellate Courts. Such

review would not be mooted by any future development in the trial Court, and the Court has concluded that its determination of the issues decided herein would not be changed by later developments in the trial Court relating to the disposition of the remaining issues to be tried, viz., those raised by the second count of the counterclaim. Neither would the appellate Court be required to decide a second time any legal issues relating to already adjudicated claims. The Court has also determined that the second count of the counterclaim poses no possibility of a set-off because no judgment was awarded plaintiff on the complaint.

J. The Court has therefore concluded that there is no just reason for delaying entry of final judgment as to the issues determined herein; and that judicial

economy, sound judicial administration, and the speedy determination of this action, which has pended for more than 10 years, are best served by the entry of a judgment pursuant to F.R.Civ.P. 54(b).

s/Dickinson R. Debevoise
DICKINSON R. DEBEVOISE
United States District Judge

Dated: May 6, 1982

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

STRUTHERS PATENT CORPORATION,

Plaintiff,

v.

THE NESTLE COMPANY, INC.,

Defendant,

v.

STRUTHERS WELLS CORPORATION, et al.,

Additional Defendants on Counterclaim.

Civil Action No. 663-72.

OPINION

DEBEVOISE, District Judge.

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Appendix A

INTRODUCTION

Plaintiff, Struthers Patent Corporation, filed its complaint on April 13, 1972, alleging that defendant, The Nestle Company, Inc., was infringing ten Struthers patents by its manufacture and sale of soluble coffee. Nestle denied infringement and asserts that each of the patents is invalid and unenforceable. Nestle filed a counterclaim seeking, in one Count, a declaratory judgment of invalidity and unenforceability of each of the ten patents and asserting, in a second Count, a claim alleging unfair competition. Nestle joined as defendants on the counterclaim two corporations which are affiliated with plaintiff -- Struthers Wells Corporation and Struthers Scientific and International Corporation. The three affiliated corporations will be referred to collectively as "Struthers".

The case has had a protracted pretrial history. Two matters are now ripe for disposition: (i) Struthers' motion to confirm the report and recommendation of a special master concerning sactions to be imposed by reason of Struthers' destruction of relevant documents prior to institution of this action, and (ii) Nestle's motions for summary judgment of invalidity and/or unenforceability of the ten patents in suit.

For the reasons which are set forth in Parts I through V of this opinion, the findings of the special master will be adopted in part, modified in part, and rejected in part, but his recommendation that no sanctions be imposed will be adopted; Nestle's motions for summary judgment of invalidity of the ten patents will be granted.

A. BACKGROUND

Struthers is in the business of licensing and selling technical information and know-how. It owns the ten patents in suit, which deal generally with freeze concentration in the manufacture of instant or soluble coffee and certain other food products. Nestle is the world's largest seller of soluble coffee.

In simple terms, freeze concentration of coffee extract (derived by brewing coffee from coffee beans) involves removing water from the extract by chilling the extract sufficiently to form ice particles and then removing the ice particles, leaving a more concentrated solution. After the concentration stage the concentrated solution may be dried by various means to form the powder or granules constituting the soluble coffee. Nestle uses a freeze drying

process but denies that it freeze concentrates coffee. For the most part the patents in suit contemplate that the freeze concentration processes described therein either will be or may be followed by freeze drying.

Events pertinent to the pending motion took place as early as the mid-1960's. At that time Struthers entered into a contractual relationship with General Foods Corporation to assist General Foods in developing equipment for the freeze concentration of coffee extract. During the course of that relationship Struthers disclosed and sold or offered to sell to General Foods various processes and items of equipment relating to freeze concentration. According to General Foods it did not find the processes or equipment useful in its business and it terminated its relationship with Struthers.

Thereafter extensive litigation between General Foods and Struthers took place, most of which ultimately was consolidated in the United States District Court in Delaware. Struthers charged General Foods with infringement of six of the ten patents at issue in the present action. Each party charged the other with theft of trade secrets and know-how. After extensive discovery and other pretrial proceedings the parties settled, signing a settlement agreement on February 9, 1972.

After February 9 and prior to April 13, 1972, when the present action was filed, Struthers collected and destroyed a very substantial part of the documents and depositions which it had assembled in the course of the General Foods case. This document destruction is the subject of Nestle's motion for sanctions and the special master's report and

recommendation recommending against sanctions.

Nestle filed four motions for summary judgment, each directed to two or more of the ten patents in issue. Four days of hearings on those motions were held. I ruled against Nestle from the bench on certain grounds which it advanced, and I reserved decision on the remaining grounds. Parts II through V of this opinion deal with the remaining grounds.

B. General Comments about the Summary Judgment Motions

Summary judgment of invalidity of a patent is not common. Nevertheless I have concluded that summary judgment of invalidity of each of the ten patents at suit is required in this case.

Nestle filed in support of its summary judgment motions a very extensive record. This record consists of the file

wrappers of the proceedings in the Patent Office relating to each of the ten patents in suit and to certain other applications pertinent to these patents. It consists of documents produced by Struthers to Nestle in this action. It consists of Struthers' answers to interrogatories and deposition testimony of Struthers' officers and employees in this case and in the Struthers/General Foods litigation. It consists of a vast array of prior art, including earlier patents, articles and texts.

Each of the four summary judgment motions was accompanied by three volumes of exhibits, i.e., a volume containing the file wrapper of the patents which were the subject of the motion, a volume containing documents produced by Struthers to Nestle, and a volume of prior art documents. Exhibits referred to in Parts II through V of this opinion

will be found in the pertinent volume relating to the particular motion under discussion. The factual data contained in this material can hardly be disputed, consisting as it does of official records of the Patent Office, Struthers' own statements, and prior art which has not been challenged.

In addition, each party filed affidavits. Struthers' affidavits were designed to demonstrate that there are genuine issues of material fact which preclude summary judgment.

So vast is the record submitted in support of the summary judgment motion that it is a temptation to concluse that, amidst it all, genuine issues of material fact must exist. However, the trial of this case would impose such a heavy burden upon the parties and upon the resources of the Court, particularly as a jury has been requested, that I concluded

that every effort had to be made at this time to comb the record and to determine if such issues do, in fact, exist. This is what I attempted to do, and the necessity to describe for the record the results of this inquiry is the cause of this regrettably (but I think necessarily) long opinion.

Each of Nestle's motions advances six or more grounds why summary judgment of invalidity and/or unenforceability should be granted. I have ruled that as to certain of those grounds the motions should be denied as a matter of law, and that, as to certain others of those grounds, the motions should be denied because as to those grounds there are genuine issues of material facts. I have ruled that each of the ten patents is invalid as a matter of law on one or more grounds. As to each patent except one (the Ganiaris 3,636,722 patent) one

ground of invalidity is obviousness over the prior art, 35 U.S.C. § 103. (The question of obviousness was not reached in the case of the '722 patent, as I concluded that it is invalid on two other grounds.) I did not believe it necessary in the case of any of the patents to determine whether they were also invalid because they were previously described in a patent or other publication, 35 U.S.C. § 102(b), and there were certain other grounds advanced by Nestle upon which I did not rule.

For the purpose of the § 103 contentions it was necessary to make the factual inquiries mandated by Graham v. John Deere Co., 383 U.S. 1 (1966): (i) determining the scope and content of the prior art; (ii) ascertaining the differences between the prior art and the claims in the patents at issue; and (iii) determining if the differences are

such that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art.

The scope and content of the prior art is set forth in great detail in the record and can hardly be disputed. Similarly, the differences between the prior art and the claims in the patents at issue can be readily ascertained by a simple comparison. Struthers has argued strenuously, however, that there is a factual issue as to what was the ordinary skill in the art and as to whether the differences between the prior art and the claims in the patents at issue would have been obvious to a person having such skill. Struthers contends that these questions cannot be resolved without the testimony of experts in the face of affidavits of Struthers' employee, Neophytos Ganiaris, asserting an absence

of obviousness. I will deal with this contention in more detail in Parts II through V of this opinion. Some general observations, however, might be helpful at this point.

The subject matter of the art involved in the present case is freeze concentration and freeze drying in the manufacture of powdered soluble food products. Although coffee is the principal food product under discussion, the same principles and techniques apply to certain other food products as well.

As an examination of the prior art record discloses, this subject matter is a well ploughed field. For decades patentents have been filed, articles written, and research and development undertaken in every phase of freeze concentration process and equipment. The same record discloses that the skill in the art by this late date is very high.

Not only is the skill in the art high, the subject matter is relatively simple, easily understandable by a person having limited or no technical background in this field.

After reviewing the entire record applicable to all ten patents I concluded that it can be determined that there is no genuine issue of fact that the various changes and alleged improvements which Struthers has introduced into the prior art either are no more than cosmetic differences without any patentable significance or else, if they can be seen as improvements, are such as would have been obvious to one skilled in the art. The basis for this conclusion is described in some detail in Parts II through V and should be apparent from a comparison of the prior art and the claims at issue. The situation here is similar to that which prevailed in C-Thru

Products, Inc. v. Uniflex, Inc., 397 F.2d 952, 955 (2d Cir. 1968).

> Appellant now stresses that in patent cases summary judgment is often inappropriate by reason of the necessity to inquire into the scope and content of the prior art, the differences between the prior art and the claims at issue, and the level of ordinary skill in the art . . . In many cases involving a question of patent validity such inquiry involves consideration of technical questions which are often best understood with the aid of expert testimony. But in this case, as Judge Bartels pointed out (Appellants' appendix, p. 6a), the prior art and the patent claims are not complex and are easily understandable without expert aid. This is one case where it truly would be 'an absurd waste of time and effort' to deny summary judgment.

Three other matters should be mentioned by way of introduction.

Nestle urges that by reason of Struthers' misconduct in procecuting various of the patents involved in this case, at the very least Struthers should be denied the benefit of the presumption of validity accorded by 35 U.S,C. § 282. As will be described in some detail in

Parts II through V, Struthers persistently violated Patent Office rules when prosecuting the applications leading to these patents. This resulted in major voids in the Patent Office records, often making it impossible to determine why an examiner acted as he did. For example, often one cannot tell from the file wrapper why an examiner who had found a claim to be invalid over the prior art reversed himself. More disturbing, though less frequent, are the situations in which Struthers changed its factual position. From time to time, both in proceedings before the Patent Office and during the course of this litigation, Struthers simply changed its factual statements when expedient to do so. I deal with this more extensively, particularly in Part II. If this were the trial of the case, it might well be that the presumption of validity would be

affected. However, for the purpose of the summary judgment motions I have assumed that Struthers is entitled to the full benefit of the presumption.

Another point which might be noted preliminarily is the fact that I am being asked to grant a summary judgment of invalidity of ten patents which, prior to their issuance, were reviewed and ultimately approved by a number of different patent examiners, each an expert in the field of patents. I think, however, that after reviewing all the prior art relating to all ten of the patents, and after reviewing all of the patents them selves, I am in a better position to evaluate the validity issues than were the examiners.

I have had the benefit of being able to review all of the patents, all of the file wrappers, and all of the prior art at the same time. These patents are

intimately related to each other, and the prior art of one is frequently prior art of another. My conclusion of obviousness of one patent was fortified and confirmed as I moved on to each succeeding patent and its prior art.

None of the patent examiners had the opportunity to view these patents and the prior art in a unified presentation. Much of the prior art was never before them. In the case of some of the applications a number of examiners were assigned, none seeing the application through from start to finish. A candid statement by William A. Drucker, patent counsel and an officer of Struthers, describes the pressures under which these patent examiners worked:

> What often happens -- this is what I want to explain -- examiners are under a production quota, and they are concerned with disposition of cases, and part of their system is to

> make proposals to patent attorneys saying, 'If you will make the following changes, I think I can see my way to allowing this language and letting the case get off my desk.'
>
> Sometimes the proposal of the examiner on its face is quite acceptable. Sometimes it requires some conversation before final version is agreed upon. This is, I might say, or usually it happens on a Friday or it used to at the time these cases we are concerned with because examiners had weekly quotas for disposal of cases. That was the normal natural working in the Patent Office, at least in the coffee arts. I can't comment now on every single art, but in the part dealing with food and coffee a lot of the examiners at that time were under such high pressure from the Commissioner's Office to get rid of cases, to avoid an appeal if at all possible. In fact were under positive instructions to issue patents as opposed to rejecting them.
>
> (Transcript of Hearing, June 16, 1981, at 18.)

Given all this, it is neither surprising nor an adverse reflection on the examiners that in the unusual circumstances of this case I find myself in a better position to determine certain issues of validity than they were.

There is one final point I wish to make before turning to the individual motions. I am more confident in my conclusions by reason of the fact that each party has been represented by extraordinarily able counsel. Each legal issue has been briefed and argued exhaustively. Each side has probed the record and has, I am sure, discovered and impressed upon me every fact or circumstance supporting its position. In writing this opinion I have drawn extensively upon the briefs of both sides. For example, I have treated Nestle's accounts of the prosecution of the pertinent patent applications as proposed findings of undisputed facts and, after checking them against the record, have modified and (as modified) adopted them.

I turn now to the five pending motions.

I. The Special Master's Report

In December, 1975 Nestle filed a motion pursuant to Fed.R.Civ.P. 37 seeking sanctions against Struthers for an alleged destruction by Struthers just prior to the institution of this action of a very substantial quantity of documents relevant to the issues in this action.

These documents were voluminous in nature and were assembled during the course of the litigation between Struthers and General Foods Corporation. In that action Struthers asserted against General Foods six of the ten patents which it now asserts against Nestle.

Judge Meanor, to whom the case was then assigned, reviewed the papers which Nestle submitted in support of its motion for sanctions on account of the document destruction, and he heard argument on the

motion. As set forth in his opinion filed September 15, 1976, he concluded that he was "unable to determine from the written record what documents were destroyed or how they related to the issues in this action". Further, on the record before him, he was unable to "determine the appropriateness of the many forms of sanctions sought by Nestle". He reserved decision until a hearing could be conducted.

In order that resolution of the document destruction issues would not delay prosecution of the other phases of this case I appointed The Honorable Harold R. Tyler, Jr., a former United States District Court Judge, Special Master to supervise discovery, conduct hearings, and file a report containing his findings of fact, conclusions of law, and recommendations with respect to the document destruction charge. Inquiry

into the following factual and legal questions was to be made: (i) identification, with as much specificity as possible, of the documents which were destroyed; (ii) the relationship of those documents to the issues in the present action; (iii) the extent to which such documents can now be obtained from other sources; (iv) whether Struthers knew or should have known at the time it caused the destruction of the documents that litigation against Nestle on the patents at issue was a distinct possibility, and (v) whether, in the light of the circumstances disclosed by the factual inquiry, sanctions should be imposed upon Struthers and, if so, what the sanctions should be.

By pretrial order #2 Judge Tyler was appointed Special Master. Thereafter very extensive work was performed by the Special Master and the parties with

respect to the document destruction phase of the case. Had it not been for the efforts of the Special Master, it would have been impossible for me to have proceeded with the discovery and summary judgment phases of the case.

On June 8, 1981 the Special Master filed his report and recommendations, which concluded that no sanctions should be imposed upon Struthers. Struthers filed a motion to confirm the Special Master's report and to deny Nestle's motion for sanctions. Nestle filed objections to the report and recommendation. A hearing on the motion and objections was held on September 10, 1981. Most of the grounds of Nestle's objections are addressed in this Part I. In view of my conclusions set forth below it is unnecessary to address the remaining grounds.

A. The Destroyed Documents

During the course of the General Foods litigation Mr. Drucker, patent counsel and an officer of Struthers, was in general charge of assembling and controlling documents. He arranged for all Struthers' documents pertaining to freeze concentration to be assembled and sent, ultimately, to the Texas law firm representing Struthers in that litigation, Fulbright and Jaworski. Mr. Drucker retained in his own custody the files relating to the processing of the pertinent patent applications. Through the discovery process in the General Foods litigation depositions were acquired and thousands of documents produced. Struthers kept these documents in Houston and copies were kept by Mr. Drucker in New York City, by John G. Muller, a Vice President of one of the Struthers companies, in Washington, D.C.,

and by Struthers' Delaware counsel in Wilmington, Delaware. In addition, the Fulbright firm sent to Westheimer Transfer & Storage Co., Inc., for storage, certain documents which included those known as the Office of Saline Water ("OSW") documents. These were documents relating to work carried out by Struthers for the Office of Saline Water, United States Department of the Interior.

A protective order was entered in the Delaware Federal District Court in the General Foods litigation covering some, but by no means all, of the depositions and documents produced by General Foods. It provided, in part:

> 2. At the conclusion of this litigation, all information received by any party from an opposing party and designated as secret, or determined to be secret by Court order, shall be deposited by the party then in possession of it in a secure place, still subject to the terms of this order, protected from access by any person other than a person authorized to see it by the

> terms of this order, or the terms of some subsequent Court order. (Emphasis added.)

On February 9, 1972 Struthers and General Foods signed an agreement terminating their litigation.

At Mr. Drucker's instructions, some OSW documents had been destroyed at the Westheimer warehouse on January 12, 1972. Struthers can give no explanation of this destruction, which took place just prior to a court-ordered document inspection by General Foods of the OSW documents. The remaining documents stored at Westheimer were destroyed on March 7, 1972, pursuant to Mr. Drucker's instructions.

On February 14 or 15, 1972 (less than a week after the Struthers-General Foods settlement agreement was signed) Mr. Drucker ordered that all the General Foods litigation documents be shipped to Houston for destruction. The exact dates

when the destruction of the documents in Houston took place (except for the documents destroyed on January 12 and March 7, 1972 in the Westheimer warehouse) is not known precisely. Many were probably destroyed in late February and early March, 1972. Some must have been destroyed in or after May, 1972, when Struthers' Delaware attorneys shipped documents to Houston in response to Mr. Drucker's instructions.

On March 6, 1972, Mr. Muller burned the documents under his control in Washington, D.C. Struthers' Delaware counsel destroyed certain of the documents in their control in February, 1972 and, as mentioned above, shipped others to Houston in May, 1972

Mr. Drucker's files contained documents underlying or pertaining to the patents in suit in the present case or relating to freeze concentration. This

included documents relating to the prosecution and the file history of abandoned, pending and issued applications. These were destroyed, according to Struthers, as a "routine housekeeping practice" and "began in the early 1960s and continued subsequent to April 13, 1972" (the date when Struthers filed its complaint against Nestle).

The Special Master found that this document destruction program resulted in the destruction of the following categories of documents:

1. Copies of transcripts of depositions of General Foods personnel.

2. Copies of exhibits marked during the depositions of General Foods personnel.

3. Copies of documents, which copies were produced to Struthers by General Foods in the course of discovery.

4. All copies of the OSW records

except copies of government contracts and a North American Aviation contract.

5. Copies of Struthers' correspondence and related materials pertaining to customers or potential customers of Struthers for a period during the mid-1960s.

6. Materials in the files of Struthers designated as "privileged" in relation to the litigation with General Foods.

7. Copies of documents in the files of Struthers relating to the prosecution and file history of some or all of the freeze concentration patents here in suit.

This finding requires a modification to reflect two events which occurred during the proceedings before the Special Master.

Shortly before the March 21, 1981 hearing before the Special Master,

Struthers reported that "portions" of its customer correspondence in the mid-1960s had been discovered. Thus at least part of the customer records previously reported to have been destroyed evidently were not destroyed and, very belatedly, have been produced. The day before the hearing before the Speoial Master Nestle was informed that the original index cards of documents from the Struthers-General Foods litigation were in existence and in the possession of Struthers' counsel. Early in this litigation Struthers denied the existence of such a list. With these modifications, the findings of the Special Master as to the documents which were destroyed are supported by the record and will be adopted.

B. Struthers' Knowledge of Impending Litigation

The Special Master found that "the

record does not indicate when Struthers decided to institute suit against Nestle, nor does it establish who, acting on behalf of Struthers, made that decision. The complaint herein was filed April 13, 1972." This is a correct finding.

In addition, however, I believe it necessary to determine whether Struthers knew or should have known at the time it caused the destruction of the documents that litigation against Nestle on the patents at issue was a distinct possibility. The Special Master did not make a specific finding on this point, but the record leaves no question as to what the answer to this question must be.

Struthers' proposed Contentions of Fact filed with the Special Master conceded that "After the settlement of the General Foods litigation, Struthers knew or should have known that litigation against Nestle on the patents at issue in

its present action against Nestle was contemplated."

A recital of Struthers' position on this issue is pertinent, because it bears upon Struthers' motives when destroying the documents and it bears upon its good faith in the present proceedings.

In 1976, in opposition to Nestle's motion for sanctions, Struthers filed an affidavit of Mr. Drucker which stated in part:

> 10. I also want to emphasize that at the time the documents were destroyed Struthers had not turned its attention to preparation for litigation with Nestle and indeed was not prepared for litigation with anyone. I was not at that time aware of any plan by Struthers to conduct further litigation nor have I subsequently become aware that such a plan was in existence at that time.
>
> 11. * * * Struthers has not concealed from Nestle any information appropriate to the matters in dispute in the present litigation. From the beginning of the present litigation until this time there has been absolutely no document destruction on

> behalf of Struthers. Indeed, no document destruction occurred from the moment that litigation between Struthers and Nestle was contemplated by Struthers. [Emphasis in original.]

In its Interrogatory 81(a)(C)(xii) Nestle had requested Struthers to identify "memoranda of counsel, diary and timebook entries of counsel and employees of respondents, bills and statements of counsel", etc. In its answers (which list William Drucker, James Weiler and Dudley Dobie (of the Fulbright firm) of counsel), Struthers responded:

> Objection is made to identification of memoranda of counsel, diary and timebook entries of counsel and bills and statements of counsel on the basis of privilege. However without waiving the foregoing objection, there are no such documents relating, pertaining, referring to or bearing upon the foregoing. In addition, there are no other documents of the nature requested. (Emphasis added.)

Nestle also served further document requests (Nos. 7-9) relating to destruction, to which Struthers replied:

"there are no documents relating to the solicitation or giving of advice concerning document destruction."

Discovery of the Fulbright firm's time sheets in the proceedings before the Special Master disclosed that Mr. Drucker's statements and the answers to these interrogatories were not true.

It will be recalled that the Struthers-General Foods settlement agreement was signed on February 9, 1972 and that Mr. Drucker issued the document destruction orders on February 14 or 15, 1972. The Fulbright records show that on February 11, 1972, Mr. Drucker entered into discussions with the Fulbright firm regarding the disposition of documents and institution of new legal proceedings. The Fulbright and Jaworski time record of Dudley R. Dobie dated February 11, 1972, reads as follows:

Conf. T. Clark re document retention;

> T/T W.A. Drucker re doc. disposition and new litigation; continue review of files for storage. (Chargeable Hours Card No. 000037; Tab. 18.)

Mr. Dobie testified that the new litigation mentioned in his card referred to either Nestle or Coca-Cola (Dobie Tr., p. 192.)

During February, 1972 letters proposing non-exclusive licenses were sent over the signature of Struthers' litigation counsel, Mr. Weiler, to Nestle and several other companies in the soluble coffee industry. Those letters were dated February 15, 1972, the very time when Mr. Drucker issued his instructions for the destruction of documents.

Again, on February 22, 1972, Mr. Dobie had another telephone conversation with Mr. Drucker regarding the Nestle matter. His Time Card of that date reads as follows:

> T/T Drucker re Nestle matter and re storage of files. (Fulbright and Jaworski Chargeable Hours Card No. 000002, Tab. 19.)

On February 23, 1972 -- the same date on which the order of dismissal was filed in the Delaware District Court terminating the Struthers/General Foods litigation -- Mr. Drucker had further discussions with the Fulbright lawyers regarding the Nestle litigation. Mr. Dobie's Time Card for February 23, 1972 reads as follows:

> T/T Richards re entry of Order of Dismissal; T/T W.A. Drucker re Nestle litigation; review Rule 60 requirements re Court's jurisdiction after judgment; investigate jurisdiction re Nestle litigation. (Fulbright and Jaworski Chargeable Hours Card No. 000001, Tab. 20; emphasis added.)

On the same date Mr. Drucker also conferred with James F. Weiler, the partner in charge of the litigation. Weiler's Time Card for February 23, 1972

reads:

> Confer Drucker re bringing suit against Nestle in Houston; drafting Complaint and venue questions; confer Dobie re same. (Fulbright and Jaworski Chargeable Hours Card No. 000161, Tab. 21; emphasis added.)

Confronted with these records, Struthers had little choice but to concede that at the time it caused the destruction of the documents it knew or should have known that litigation against Nestle on the patents at issue was a distinct possibility. The Special Master's report will be modified to include a finding to the effect that Struthers had actual knowledge that such litigation was a distinct possibility at the time of its destruction of documents in and after February, 1972. Further, there will be included a finding that during the course of the present litigation Struthers sought to conceal

the fact that it had such knowledge until, during the proceedings before the Special Master, it was confronted with records from its former attorneys' files -- which demonstrated that Struthers' original contentions in this regard were untrue.

C. Relationship of the Documents to the Issues

The Special Master did not make findings as to the relationship of the destroyed documents to the issues in the present action, perhaps because it is so obvious that each category of destroyed documents (with the possible exception of the OSW documents) was likely to contain relevant information or material which might lead to relevant information.

The General Foods litigation in which the destroyed documents were assembled

included a number of separate actions, the claims in which were eventually dealt with in the district court action in Delaware. Struthers filed actions in Texas charging that General Foods was infringing certain of Struthers' patents. General Foods began a declaratory judgment action with respect to the patents in Delaware and thereafter the Texas actions were transferred there. As additional patents were issued to Struthers, additional infringement actions were filed by Struthers in Delaware. Ultimately, six patents (all in suit in the instant action) were in suit in Delaware. In addition, Struthers filed an action in the New York State courts alleging theft of trade secrets by General Foods. General Foods' amended complaint in Delaware also contained a count alleging unfair competition by reason of Struthers' wrongful

misappropriation of General Foods' confidential information and Struthers' use of that information to obtain the Muller '007 patent (see Part II of this opinion) and the Reimus '302 dewaxing patent (see Part IV of this opinion). The relationship of the unfair competition and patent claims was discussed in General Foods Corp. v. Struthers Scientific and International Corp., 297 F. Supp. 271 (D. Del. 1969).

The six patents asserted against General Foods are among the ten patents which are the subject of this suit and of Nestle's summary judgment motion. They are dealt with in this opinion as follows:

Part II - Both patents in this group, viz., Muller 3,404,007 and Muller 3,495,522, were in suit in Delaware.

Part III - Ganiaris 3,531,295 and Ganiaris 3,620,034 were not in suit in Delaware. Their disclosure of washing the ice to recover coffee solids is, however, included in the

claims of other of the patents which were in suit.

Part IV - Reimus 3,381,302, Reimus 3,449,129 and Reimus 3,474,723 were in suit in Delaware. The fourth Reimus patent (3,632,353) purports to derive from the same applications.

Part V - Of the two hollow agitator shaft patents, Howell 3,367,126 was in suit in Delaware; Ganiaris 3,636,722 was not.

In Documentary Requests Nos. 1-6 in the present action Nestle asked for all documents and other products of discovery in the General Foods-Struthers litigation. Concluding that this was a proper subject of discovery, Judge Lacey, who was then handling this case, entered an order on February 15, 1973 which provided, in part:

> That Defendant's [Nestle's] motion to compel Respondents [all three Struthers companies] to produce for inspection and copying all documents which are the subject of Defendant's first documentary request (Nos. 1-6) is hereby GRANTED, except insofar as such documents have been produced or marked as Defendant's Deposition

Exhibits in this litigation. Having heard Nestle's summary judgment motions before addressing the document destruction issues, I am able to evaluate the relationship between the destroyed documents and major issues in the case. There can be no question that Judge Lacey correctly concluded that the documents generated in the earlier litigation are pertinent to the present case.

Given the fact that six of the ten patents involved in the present action were the subject of the earlier action, and that the present and former actions involve similar claims and defenses, transcripts of the depositions of General Foods personnel, copies of exhibits marked during those depositions, and copies of documents produced to Struthers by General Foods in the earlier litigation must be highly relevant in the

present action. Among other things, they would bear upon the validity of Struthers' patents under paragraphs (a), (b), (f) and (g) of 35 U.S.C. § 102 and under 35 U.S.C. § 103.

There is a dispute between the parties as to the relevance of the OSW documents which involved a development program for freeze desalination of water which Struthers had undertaken for the United States government. Nestle contends that freeze concentration and desalination are essentially the same process and therefore Struthers' work on desalination would bear upon its freeze concentration efforts. Struthers, on the other hand, urges that the processes are essentially different and that the OSW documents produced in the General Foods action related to issues unrelated to patent validity. There is insufficient evidence in the record to make a finding

on the relevance of these documents in the present litigation, but, of course, destruction of the documents compounds the difficulty of making such a determination.

The Special Master recited Struthers' rationale for destroying its correspondence and related materials pertaining to customers or potential customers for the period during the mid-1960s: "Struthers made the decision to destroy these documents because of their age and because of the view of Struthers' counsel, at the time of destruction, that such documents were wholly irrelevant to any litigation with Nestle or any other company."

The conclusion of Struthers' counsel in this regard (if, indeed, he did so conclude) was unjustified. As the summary judgment motions in this case amply demonstrate, an important basis for

attacking the validity of Struthers' patents is that the subject matter claimed in the patents was offered for sale or sold more than one year prior to the applications therefor, 35 U.S.C. § 102(b). Correspondence with customers during the mid-1960s, a period one year or more prior to the applications for the patents now in litigation, had potential relevance to the on sale defense. It is inconceivable that Struthers' counsel, an experienced patent attorney who had only recently wrestled with this issue in the General Foods litigation, would not have appreciated the significance of this kind of document.

Whether or not the materials in the files of Struthers designated as "privileged" in the General Foods litigation is discoverable in the present action, they are in all likelihood relevant to the issues now before the

Court. Given the substantial overlap of the patents involved in the present and former case and the similarity of the patent claims and defenses, much of the "privileged" materials, like the General Foods case deposition transcripts, exhibits and documents, must bear upon the issues in this case.

The documents in Struthers' files relating to the prosecution and file history of some or all of the freeze concentration patents now in suit also had a potential relevance in the present case. It became evident during the review of the papers in support of Nestle's motions for summary judgment (papers which were not available to the Special Master) that there are major deficiencies and gaps in the Patent Office files of the prosecution of the pertinent patent applications. This will be developed more fully in Parts II

through V of this opinion. Suffice it to say at this point that it is quite likely that Struthers' files would have filled these gaps and helped explain or amplify questions relating to the prosecution of the patents. Thus, the destroyed files were also potentially relevant to the issues in this case.

Inasmuch as the Special Master made no findings as to the relevance of the destroyed documents to the issues in the present case, his report and recommendation will be modified to include the factual findings contained in this section C.

D. Present Availability of the Destroyed Documents

The Special Master's findings with respect to the present availability of the destroyed documents appear at different places in his report and recommendation, quite often in connection

with his discussion of other issues. I shall discuss them as they apply to each category of documents destroyed. There is one general observation in the report which is incorrect.

At page 11 of the report it is stated: "That deposition [of General Foods Delaware counsel] reveals that the Connolly firm has copies of all or virtually all of the materials destroyed by or at the direction of Struthers in 1972." The following discussion of the present availability of the documents will show that the conclusion is too broad.

Turning now to the present availability of the seven categories of documents:

The Special Master found (at pp. 8,9) that "Copies of the transcripts of depositions of General Foods personnel, together with the exhibits thereto, are

still in existence and in the possession of Messrs. Connolly, Bove & Lodge of Wilmington, Delaware, attorneys for General Foods. The same law firm also is currently in possession of copies of documents which were produced by General Foods to Struthers in the course of the General Foods litigation." This finding is amply supported by the deposition testimony of Paul Crawford taken during discovery undertaken in connection with the proceedings before the Special Master.

The Special Master also found that "the originals of [the documents which were produced by General Foods to Struthers] appear to be still in the possession of General Foods". This finding has some support in the record in the form of deposition testimony of Michael J. Quillinan, General Foods' Manager of Patent Litigation, given in October, 1972. However, according to

that testimony, the original documents, contained in five five-drawer filing cabinets, are not assembled in one place. The documents probably had been returned to the places from which they had come. In the words of Mr. Quillinan: "The simplest way would be to simply return to the corporate arms that provided these documents, the various haystacks there of that existed. And I am not sure that even today [October, 1972] such haystacks exist. They may be in the form of hay. Where and what degree they are stacked, I really cannot say."

Thus it is highly probable that the original documents were still in the possession of General Foods at the start of the Struthers litigation against Nestle. However, it also appears that they had been scattered throughout General Foods' corporate departments. It

had required strenuous discovery efforts on Struthers' part to obtain production of those documents in the earlier litigation. That work, in all likelihood, would have had to have been repeated by Nestle if it sought to obtain the documents from General Foods. Its task would have been complicated by the fact that General Foods is not a party to the present litigation.

However, it appears, as the Special Master found, that the first three categories of documents are available in that they are in the possession of General Foods' Delaware counsel and that, at least in October, 1972, General Foods had the original category 3 documents scattered throughout the corporation's offices.

As to the availability of the remaining four categories of documents, the Special Master made the additional

finding that the items referred to in categories 4, 5, 6 and 7 above "were in fact received from Struthers by General Foods". From this it might be inferred that the documents were therefore available in the files of General Foods' counsel. The finding on which this inference is based is clearly erroneous, at least as to categories 4, 6 and 7. The finding will not be adopted.

As to category 4, some of the OSW records were destroyed on January 2, 1972 before General Foods' inspection, and it is not known whether General Foods made copies of the balance of the OSW records which were inspected by General Foods and which Struthers subsequently destroyed. At page 9 of his report and recommendation the Special Master wrote: "I note that there is some evidence that the originals of the OSW records may still be in the possession of the United

States Government." This observation can only be applicable to OSW documents which were generated by or submitted to the United States government. It cannot be applicable to Struthers' internal documents relating to the OSW project.

Further, according to evidence submitted by Nestle long after the Special Master had filed his report and recommendation, the government's copies of the OSW documents were disposed of even before Struthers destroyed its copies in 1972.

As to category 5, it may well be that General Foods did receive copies of Struthers' customer correspondence, although discovery in connection with the document destruction proceeding raises a question as to whether it received all such documents. It now seems likely that most of the customer records have finally been located through Nestle's discovery

efforts during the proceeding before the Special Master.

As to category 6, pursuant to the order of the Delaware district court, General Foods received copies of a portion of the documents as to which Struthers claimed a privilege. It did not receive those which were not ordered to be produced. The Special Master recognized this fact and he may have intended to limit the overly broad language appearing on page 6 of his report by the observation appearing on page 9 to the effect that "copies of some, at least, of the Struthers files designated 'privileged' in the litigation with General Foods are currently to be found in the offices of Messrs. Connolly, Bove and Lodge" (emphasis added).

As to category 7, General Foods did not receive Mr. Drucker's prosecution and file history. As found by the Special

Master, it did receive very substantial documentation relating to freeze concentration, including laboratory note books, data sheets, weekly reports, etc., as listed in the footnote commencing on page 6 of the Special Master's report. To the extent that General Foods' counsel did not receive the Struthers' "privileged" documents (category 6) and the documents in the Struthers prosecution files (category 7) these destroyed documents were and remain unavailable in the present litigation.

Therefore, the Special Master's findings as to the present availability of copies or originals of the destroyed documents will be adopted, modified and rejected to the extent indicated in this section D.

E. Sanctions to be Imposed

The Special Master recommended that no sanctions be imposed upon Struthers

for the destruction of the documents. His recommendation was based upon his findings concerning the matters discussed in sections A through D above, and it was based upon certain other factual findings.

The Special Master found that Struthers' motices for destroying the documents were proper, namely:

1. " . . . when the decision was made by Mr. Drucker on behalf of Struthers in February, 1972 to destroy documents, that decision was in large measure motivated by the existence of a protective order entered in the General Foods litigation or or about April 24, 1969 . . ." [p. 7).

2. "Counsel for Struthers knew that originals or copies of some or all of the documents were in the possession or control of General Foods; they also believed that it would be impossible to reach an agreement with General Foods regarding the disposition of all these documents." (pg. 8).

3. "The proof indicates that Struthers and its counsel were motivated to destroy some of the OSW records because they perceived no need to continue storage, particularly since, in their view, copies or originals of all these documents were on file with the United States government." (p. 8).

4. "As to the files of correspondence and related materials pertaining to Struthers' potential customers in the mid-1960's, Struthers made the decision to destroy these documents because of their age and because of the view of Struthers' counsel, at the time of the destruction, that such documents were wholly irrelevant to any litigation or any other company."

Nestle urges rather substantial'reasons to reject these findings.

As to the finding that the destruction of the documents was occasioned by the existence of the protective order, Nestle notes: (i) Struthers' action constituted a violation of that order, which required that upon termination of the litigation the documents subject thereto be kept "in a secure place", (ii) Struthers' destruction of its own documents could not possibly have been occasioned by the existence of the protective order which was designed to protect General Foods'

documents, and (iii) even as to the depositions of General Foods' personnel and even as to the General Foods' documents, only a portion were subject to the protective order.

As to the finding that counsel for Struthers knew that some or all of the documents were in the possession or control of General Foods, Nestle notes: (i) clearly not all the documents were in the possession or control of General Foods or its counsel (and I have so found in an earlier section of this opinion), and (ii) since Struthers had no discussions with General Foods concerning preservation of documents, Struthers had no basis for relying on General Foods to preserve indefinitely documents which might be relevant in a new litigation to which it was not a party.

As to the finding that Struthers destroyed the OSW documents to avoid the

burdens of storage and because copies or originals were on file with the government, Nestle notes: (i) the so-called "burden" of storing the OSW documents was a $7.50 per month storage bill of Westheimer Transfer & Storage Co., Inc. and (ii) internal Struthers OSW documents would not have been on file with the government (and I have so found in an earlier section of this opinion).

As to the finding that Struthers destroyed its customer records because of their age and lack of relevance, Nestle notes the high degree of relevance of such documents in connection with the on-sale defense. (I have found, in Section C, that it is inconceivable that Struthers' counsel would not have appreciated the significance of this kind of document.)

Were I to make a finding on the evidence which was before the Special

Master as to Struthers' motives in destroying the documents, my finding would differ from his. The reasons Struthers advances smack to me of after-the-fact rationalizations. I note the significance of Struthers' vigorous denials, early in this litigation, that suit against Nestle was contemplated when the documents were destroyed, and the reversal of this position only when confronted in the document destruction proceeding with records which demonstrated conclusively that Struthers and its attorneys were discussing document destruction and suit against Nestle at the very same time. This indicates to me that Struthers knew perfectly well that it should not have destroyed the documents when suit against Nestle was contemplated.

Nevertheless, in some measure this finding rests upon credibility

evaluations, and the Special Master heard certain pertinent testimony on this issue. I conclude, therefore, that the finding as to Struthers' motivation is not clearly erroneous.

Another finding on which the Special Master based his recommendation was that "the instant mofion was filed in December 1975 but not brought on by Nestle for argument and decision by this Court until 1980". This statement is clearly erroneous, but for understandable reasons. The Special Master could not be expected to have a familiarity with the involved procedural history of this case. Nestle brought on the sanctions motion in December, 1975, as the Special Master observed. It was heard and argued before Judge Meanor, who wrote an opinion disposing of that and other motions. He concluded that he could not decide the sanctions motion without an evidential

hearing. Thereafter, the case was assigned to different judges and the delay in scheduling the evidential hearing and resolving the motion was attributable to the inability of the Court to reach the matter, not Nestle's dilatoriness.

The Special Master further found that "not until the spring of 1981 did counsel for Nestle make any effort to obtain existing copies of the documents in question from General Foods or its attorneys".

In October, 1972, Nestle took the deposition of General Foods' Manager of Patent Litigation, Mr. Quillinan, and sought to ascertain the whereabouts of General Foods' copies of all the documentation generated in its case against Struthers. At that time Mr. Quillinan testified, as noted above, that the haystacks of documents had been

redistributed throughout the corporations and "may be in the form of hay". Nestle's attorney then asked if General Foods' counsel had possession of the documents General Foods produced to Struthers. Mr. Quillinan said, "I really don't know." General Foods' patent counsel, who were present, did not disclose that they had in their possession a complete set of such documents. Nestle did not learn of this fact until such counsel were deposed in connection with the proceeding before the Special Master.

Again, I might have reached a different conclusion, but the Special Master's finding that if Nestle really wanted the documents it would have gone after General Foods and its counsel more aggressively, is not clearly erroneous and will be adopted.

The Special Master found that "the

belated motion for sanctions was finally pressed in 1980 more to obtain some tactical advantage over Struthers than to achieve true discovery". I have noted above that the motion was pressed in 1975 and that the five-year delay is attributable to problems which confronted the Court and not to Nestle's inaction. It may well be that Nestle has been primarily interested in the tactical advantages which it could derive from the document destruction caper rather than in the wish to obtain additional discovery, and the Special Master's finding in this regard will be adopted.

On the basis of the findings of the Special Master as adopted, modified and rejected by me, I will adopt his sanctions recommendation, although for somewhat different reasons from those set forth in his report and recommendation.

I do not think there is any basis for

imposing sanctions for violating Judge Lacey's order to produce. Long before he had entered that order Struthers had destroyed the documents. It was unable to comply and, therefore, cannot be held to have willfully violated the order.

The issue is whether Struthers should be penalized for destroying the documents in 1972 under the circumstances of this case.

I conclude that the destruction of the documents was clearly improper. It is immaterial, in arriving at this conclusion, that Struthers thought that the destruction was a convenient way to handle the Delaware district court's protective order or that it sought relief from the burden of storing the documents or that it thought other parties or counsel or the government would have originals or copies of the documents. Similarly, it is immaterial, in arriving

at this conclusion, that Nestle, once having learned of the event, exploited it to the full as a matter of litigation tactics, perhaps thereby seeking to divert the Court from the substantive issues in the case. All that may affect the ultimate relief to be accorded. It does not in any way cure the essential wrongness of what Struthers did.

Struthers had in its possession a vast collection of documents which had been gathered through great effort in an earlier litigation. It was contemplating new litigation involving substantially the same subject matter and issues as were involved in the litigation in which the documents had been assembled. It knew that a substantial portion of the documents would be relevant in the litigation about to be instituted. Yet it nevertheless destroyed those documents. As a result, some became

forever unavailable; many would have to be acquired once again through the long and difficult process of discovery, imposing on the Court and litigants unnecessary, heavy burdens, of which these sanction proceedings are but a part. Regardless of its avowed reasons for the destruction (which the Special Master found to be genuine reasons), Struthers' actions in 1972 were highly improper.

The applicable rule is set forth in Bowmar Instrument Corp. v. Texas Instruments, Inc., 25 Fed.R.Serv. 2d 423, 427 (N.D. Ind. 1977):

> The proper inquiry here is whether defendant, with knowledge that this lawsuit would be filed, wilfully destroyed documents which it knew or should have known would constitute evidence relevant to this case.

Struthers' conduct clearly comes within these criteria. In February and March, 1972 Struthers had in its

possession vast quantities of documents. It was actively planning to institute a complex patent action against Nestle. It knew that the documents included material relevant to the issues which would be involved in that action. Yet, on the eve of filing its complaint, Struthers embarked upon an extensive program to assemble and then destroy these documents, thus placing itself in a position where it could not comply with future discovery requests of the parties or orders of the Court with respect to those documents. It makes no difference what other reasons Struthers had for destroying those documents; its actions in the circumstances which prevailed in 1972 constituted wilfull destruction of documents in anticipation of litigation.

Had this conduct resulted in demonstrable injury to Nestle, there is no question in my mind that whatever

sanctions as would be necessary to undo the harm would be in order, National Hockey League v. Metropolitan Hockey Club, Inc., 427 U.S. 639 (1976). I have concluded, however, in conformity with the recommendation of the Special Master, that Nestle has not been harmed in its defense on the substantive issues in this case.

In Parts II through V of this opinion I set forth my reasons for granting Nestle's motions for summary judgment of invalidity of the ten patents in suit. Even without the destroyed documents Nestle has been able to assemble a comprehensive record with respect to these patents sufficient to demonstrate that there is no genuine issue of material fact as to their invalidity. Access to the destroyed documents might have provided a few more nails to drive into the coffin, but even without those

documents Nestle secured sufficient nails to inter decently the ten patents in suit.

So, in the last analysis, Nestle's ability to meet the substantive issues in the case has not been impaired significantly by the destruction of the documents. The necessity to pursue the matter has imposed a very heavy, unnecessary burden on the litigants and upon the Court. The appointment of the Special Master was required in order to ease the Court's burden and to make it possible for the Court to deal with discovery and substantive matters. Nestle urges that these burdens, which flowed from the document destruction, require that attorneys' fees and other costs incurred by Nestle as a result of the document destruction proceedings be assessed against Struthers. This would be a reasonable sanction in some circumstances. However, in the course of

the present case Nestle's own conduct when discovery was sought from it has been far from exemplary. At every opportunity it sought to delay and obstruct necessary discovery. It evaded and even violated orders of the Court. It, too, has cast unnecessary burdens on the litigants and the Court. Under the circumstances each party should bear its own attorneys' fees and costs incurred in the document destruction proceedings.

An order will be entered which will recite simply that the report and recommendations of the Special Master are adopted, modified and rejected in the manner set forth in this opinion.

II. The Muller Patents

Nestle moved for summary judgment of invalidity and/or unenforceability of Muller patents 3,404,007 (the '007 patent) and 3,495,522 (the '522 patent) on the following grounds:

1. Struthers (Muller's assignee) is collaterally estopped to relitigate the final judgment of unpatentability entered by the Patent Office Board of Appeals in the essentially identical Muller application Serial No. 738,776 (the Muller II application discussed below), from which no appeal was taken.[1]

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1. In support of its collateral estoppel argument Nestle contended that the subject matter of the Muller II application was patentably undistinguishable from the subject matter of the '007 patent. That being the case, Nestle further contended, the final judgment of unpatentability of the Patent Office Board of Appeals collaterally estops Struthers from relitigating the validity of the '007 patent. At the time I rendered my oral opinion, on June 2, (Footnote #1, cont.,) 1981, I was not prepared to rule whether there was a material issue of fact as to whether the differences between the Muller II claims and the '007 claims are merely obvious variations of an invention disclosed in the '007 patent or whether they are of a patentable nature. I held, however, that on equitable grounds it would not be appropriate to apply collateral estoppel effect to the judgment of the Board of Appeals since it was unlikely that Struthers considered

(Footnote #1 cont.,)
itself to be litigating the validity of the '007 patent in the proceeding before the Board of Appeals, Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation, 402 U.S. 313 (1971). I therefore denied summary judgment on collateral estoppel grounds.

2. The Muller patents are invalid over the prior art, including prior art not considered by the Patent Office before granting the Muller patents in suit.

3. All claims of the '007 patent are invalid for failure to comply with the requirements of 35 U.S.C. § 112.[2]

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2. Nestle contended that the '007 patent fails to comply with the first paragraph of 35 U.S.C. § 112 in that it does not contain a description in such terms as to enable any person skilled in the art to make and use the invention and it does not set forth the best mode contemplated by the inventor of carrying out his invention. Nestle also contended that the '007 patent fails to comply with the requirements of the second paragraph of § 112 in that the claims do not particularly point out and distinctly claim the subject matter which the appicant regards as his invention. In my

(Footnote #2 cont.,)
June 2, 1981 oral opinion I denied the motion for summary judgment on this ground for the reason that these highly technical arguments posed factual questions which I did not wish to resolve without a hearing, cf., Struthers Scientific and International Corp. v. General Foods Corp., 314 F. Supp. 313 (D. Del. 1970).

Upon further reflection and after hearing argument and reviewing the record in connection with the motions for summary judgment as to validity of the remaining eight patents involved in this suit, I have concluded that denial of Nestle's motion on § 112 grounds was correct. However, I believe the proper reason is not that upon which I relied at the conclusion of the argument on the two Muller patents. Rather, the level of skill in the art (freeze concentration and freeze drying of powdered soluble food products) is so high, the § 112 standards Nestle seeks to impose are "unduly parsimonious". I would now find that the '007 patent meets the requirements of § 112. Rengo Co. Ltd. v. Molins Machine Company, Inc., Docket Nos. 80-2556 & 80-2557 (3d Cir. July 20, 1981).

4. (a) The '522 patent is invalid because the apparatus subject matter it claims was abandoned.

(b) The '522 patent is invalid because it claims only an aggregation of

those elements perform only the functions and operations theretofore performed in similar combinations of the prior art.

(c) The '522 patent is invalid for double patenting and extension of the monopoly of the '007 patent.

(d) The '522 patent is invalid by reason of late claiming.[3]

5. The Muller patents are invalid by reason of prior offer for sale, sale and use of the subject matter they claim.

6. The Muller patents are invalid and unenforceable by reason of Struthers' withholding from the Patent Office of information material to the patentability

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3. In my oral opinion of June 2, 1981, I denied Nestle's motion for summary judgment of invalidity and/or unenforceability of the '522 patent on the ground of late claiming.

of the subject matter claimed in the patents.[4]

After the hearing on the Group I motion I reserved decision on grounds 2, 4(a), (b) and (c), and 5. This opinion concerns itself with those grounds.

A. Description of the Patents

1. Muller '007 Patent

The Muller '007 patent is for a "Freeze dried coffee process and product". The abstract of the disclosure recites that "A process is provided for making concentrated coffee or tea in dry form by freeze concentration of an

4. In my June 2, 1981 oral opinion I denied Nestle's motion for summary judgment with respect to the '007 and '522 patents for Struthers' alleged witholding from the Patent Office of information material to the patentability of the subject matter claimed in the patents. I had concluded that facts material to that issue were in dispute. De Long Corp. v. Raymond Intern., Inc., 622 F.2d 1135 (3rd Cir. 1980): Digital Equipment Corp. v. Diamond, 654 F. 2d 701 (1st Cir. 1981)

aqueous beverage extract in which solids are recovered from the ice crystals and the concentrated extract is freeze dried."

The specifications recited that the invention relates to a process for the preparation of powdered soluble food products generally but is particularly applicable to the preparation of powdered or soluble coffee and tea. "Soluble or 'powdered' coffee has been prepared by first extracting coffee beans with hot water and subsequently dehydrating the extract by spray drying under either vacuum or slightly elevated pressure conditions. This process has met with vast commercial success, but the flavor of the soluble coffee leaves much to be desired. Volatile taste and flavor elements of the coffee are lost through evaporation, and more oxidation takes place also because of the elevated temperatures and pressure of air. The

resulting soluble product is, therefore, never as good as the extract from which it is prepared."

The specification noted how this loss of flavor had been dealt with in the past: "To improve the flavor of the soluble coffee, it has been often proposed to remove substantial amounts of the water in the extract by partially freezing the extract and separating the resulting pure ice crystals from the concentrated extract." This constituted a freeze concentration step. There followed a drying step, as to which, the specification noted, "This process of partial freezing is then followed by a complete dehydration under vacuum conditions. In this way the coffee loses less of the volatile components by virtue of the fact that the extract is subject to vacuum conditions for shorter periods of time." But, nevertheless, during the

conventional method of drying the concentrated extract "much of the flavor components of the foffee which are volatile flash off along with the water and must somehow be replaced in the coffee powder. Even this replacement of the coffee aroma elements into the coffee powder produces a product which is not truly comparable to freshly brewed coffee." In essence, the '007 patent solves the problem of loss of flavor by instituting, after the freeze concentration step, a freeze drying step.

The patent has five claims, the first four claiming variants of the freeze concentration-freeze drying process and the fifth claiming the product produced by claim 1. The claims read:

I claim:

1. A process for the preparation of a dehydrated coffee beverage product which is readily soluble in cold

water, said process comprising:

(a) preparing an aqueous coffee extract containing about 10 to 30 percent by weight of dissolved solids;

(b) subjecting said extract to concentration by partial freezing to form ice crystals and a more concentrated extract containing about 30 to about 50 percent by weight of solids;

(c) separating said more concentrated extract from said ice crystals by centrifugation; and

(d) subjecting said more concentrated extract to relatively complete dehydration by freezing the extract to a solid mass and freeze drying to a moisture content of about 1 to 5 percent at temperatures between about 0° to --50C.

2. The process according to claim 1 in which the ice is washed in step (c) and the washings are returned to step (b).

3. The process according to claim 1 in which the ice is washed in step (c) and the washings are returned to step (a).

4. The process according to claim 1 in which the ice is washed in step (c) and thereafter the washings are spray dried.

5. The product produced by the process of claim 1.

2. Muller '522 Patent

The Muller '522 patent is for a "Beverage Apparatus". The abstract of the disclosure reads: "A system of apparatus for dehydrating coffee and tea is disclosed in which a freeze concentration device includes an integral agitator device and an ice separating centrifuge which is connected to a freeze drying device which removes moisture from the freeze concentrated product under vacuum by sublimation and heat." This patent (which was applied for 2-1/2 years after the application of the '007 process-product patent) claims as an invention an apparatus which accomplishes the process claimed in the '007 patent, namely, an apparatus which dehydrates coffee, tea or other powdered soluble food products through freeze concentration followed by freeze drying. Its three claims read as follows:

What is claimed is:

1. A system of apparatus for preparing a dehydrated coffee or tea beverage product from an aqueous liquid, the extract, comprising:

(a) concentrating means for partially freezing the liquid extract to form ice therein by indirect exchange of heat across a tubular heat exchange surface between the extract and a circulating refrigerant;

(b) means coacting with concentrating means (a) for agitating extract and removing ice from said tubular heat exchange surface;

(c) centrifuge means for separating ice formed in the extract from said liquid extract,

(d) freezing means for freezing the extract;

(e) means for removing moisture under vacuum from frozen extract by sublimation; and

(f) heat source means coacting with vacuum means for heating and drying the frozen extract.

2. The apparatus of claim 1 including means coacting with the centrifuge means (c) for washing ice separated from the extract.

3. The apparatus of claim 2 including means coacting with the centrifuge means (c) for recovering solids from washings.

B. Prosecution of the Muller Applications

The history of three pertinent Muller applications for patents, all of which were owned and prosecuted by Struthers, provides indisputable data which bears upon the resolution of the pending motion.

The first application (Muller I; Serial No. 523,574; Ex. 1) resulted in the '007 patent here in suit; the second application (Muller II; Serial No. 738,776; Ex. 2) became abandoned by reason of Struthers' failure to appeal the final Patent Office determination of unpatentability entered by the PTO Board of Appeals; the third application (Muller III; Serial No. 829,613; Ex. 3) resulted in the '522 patent here in suit,

1. The Muller I Application (the '007 Patent)

In January, 1966 Struthers filed the Muller I patent application in the name

of its employee, John G. Muller, for a process of preparing soluble powdered coffee or tea. That process is summarized in the abstract of the disclosure quoted above and appearing in Column 1 of the '007 patent, which issued on that application.

The '007 patent calls for conjoining two processes - freeze concentration and freeze drying. The specification of the '007 patent sets forth one publication and twenty patents which describe "various processes for freeze concentration" (Col. 3, lines 59-68), as well as two publications and twenty-nine patents which describe "freeze drying processes and equipment" (Col. 4, lines 5-17). Yet another publication and eight patents are set forth as describing "various methods of preparing coffee extracts which may be employed in the process of this invention (Col. 2, line

66 to Col. 3, line 4).

The file wrapper of the '007 patent contains the officially certified written record of the proceedings before the Patent Office which resulted in the allowance of the Muller I application and its issuance as the '007 patent.

a. The Petition to Accelerate

After the Muller I application was filed, but prior to any official action by the patent examiner, William Drucker, Esquire, president of the plaintiff and an officer of each counter claim defendant, filed on April 24, 1967 (Ex. 1, p. 20) a request that examination of the application be accelerated, and he concurrently submitted two prior art references, assertedly developed in a search of the prior art. Mr. Drucker represented that the two prior art patents -- neither of which is mentioned in the specification of the '007 patent

-- were "deemed most closely related to the subject matter encompassed by the claims".

The first reference is one of a number of patents to Earl Flosdorf, No. 2,471,677, granted in 1949 (Prior Art Book Tab G). Mr. Drucker distinguished the Flosdorf '677 patent from Muller's alleged invention by asserting that Flosdorf '677

> is limited to the treatment of orange juice, whereas the present invention is concerned with preserving the flavor in coffee and tea.
>
> (Ex. 1, pp. 20-21.)

The petition did not call attention to another of Flosdorf's patents, No. 2,509,681 (Tab H) issued in 1950, even though the application for the latter patent is referred to in Flosdorf '677 (Tab G, Col. 1, lines 9-10). Flosdorf '681 was recognized later in the proceedings to have an important bearing

on patentability of the '007 subject matter.

The other prior art reference cited in the Muller I petition, a 1935 Krause British patent (Tab Q), was acknowledged by Mr. Drucker to relate to freeze concentration of coffee, but he distinguished it as thereafter employing "hot spray [drying] or drum drying". In connection with distinguishing Krause, Mr. Drucker stated the "essence" of Muller's invention:

> It is the essence of the present invention to start with a suitable concentrate, as does Krause, but thereafter to subject it only to a cold desication [sic] so as to avoid the volatilization of delicate flavor substances which would be lost in spray or drum drying * * *
>
> (Ex. 1, p. 21.)
>
> Thus, none of the "most closely related" art which Struthers brought to the examiner's attention described freeze concentration of coffee followed by freeze drying.

b. The Examiner's First Action

Shortly after the petition was filed, a first official action, dated June 6, 1967, was mailed to Mr. Drucker by the patent examiner, Maurice W. Greenstein (Ex. 1, p. 28). See 37 C.F.R. §§ 104-107. The examiner had found the Flosdorf '681 patent, and with one exception, which is not pertinent for present purposes, he rejected all of the Muller application claims "as fully met by" that patent.

The 1950 Flosdorf '681 patent describes freeze drying of fruit juices and aqueous extracts "such as coffee extract" (e.g., Tab H, Col. 1, line 3; Col. 2, line 3; Col. 8, lines 4 and 9). Flosdorf teaches that the juice or extract should be "preconcentrated" by appropriate means before freezing and freeze drying, as by

> subjecting the material to partial freezing with formation of a mixture of ice and concentrate and separating the concentrate from the ice, as by centrifuging.

(Tab H, Col. 2, lines 17-20.)

The quoted teaching describes freeze concentration. The '007 patent uses like terminology; see Col. 2, lines 1-6.

Flosdorf '681 thus expressly teaches the conjoined processes of freeze concentration followed by freeze drying of coffee extract. Flosdorf '681 also teaches freeze concentrating coffee extract to within the range (30% to 50% solids) set forth in the Muller '007 patent claims:

> With coffee extracts, preconcentration to a solids content of about 50% gives optimum results in the practice of the invention, from the standpoint of quality of product and cost.
>
> (Tab H, Col. 8, lines 9-12.)

The examiner rejected the Muller claims as having been anticipated by

Flosdorf, relying on 35 U.S.C. § 102(b).

The examiner's first action also made a separate and additional rejection of all the application claims over other art, viz., the 1942 Irwin patent 2,292,447 (Tab D) or the 1956 Colton patent 2,751,687 (Tab J), in view of the 1947 Noyes patent 2,416,945 (Tab F) and (as to tea) the 1958 Cortez patent 2,852,388 (Tab K). Irwin and Colton, the primary references in this rejection, were cited as showing preparation of soluble coffee by freeze drying coffee extract, which can be preconcentrated by any conventional method. Noyes was cited to show that freeze concentration is one of those conventional methods. The examiner stated:

> Consequently, to concentrate the extracts of the primary reference[s] as by the method of Noyes is deemed to be an obvious expedient and well within the purview of one having

ordinary skill in this art.

(Ex. 1, p. 29.)

Struthers responded to the official action and requested reexamination (see 37 C.F.R. § 1.111). In its response, filed August 21, 1967 (Ex. 1, p. 31), Struthers did not challenge any of Examiner Greenstein's rejections. Faced with the rejection on Flosdorf '681, and the separate rejection on Irwin, et al., Struthers cancelled the principal original claims and substituted new claims 7-10. The differences between the original claims and the new claims appear from a side-by-side comparison set forth in Appendix A, in which there are also set forth the claims which eventually issued in the '007 patent.

As appears from the comparison, one change effected by the amendment was to add a limitation in clause (c) of application claim 7 that after separating

the ice from the concentrated solution, coffee solids be recovered from the ice to be combined with the more concentrated extract.[5]

That new limitation was asserted by Struthers to constitute the significant advance which "clearly distinguishes over the cited art" -- even though it is not part of the "essence of the invention" previously urged upon the examiner by Mr. Drucker.

Mr. Drucker's remarks accompanying the new claims asserted:

> The feature of this claim [new claim 7] which most clearly distinguishes over the cited art is found in step (c) in which the solids are recovered from the ice after cintrifugation of the ice from a concentrated extract prior to freeze drying theconcentrated extract. * * * None of these principal references [Flosdorf, Irwin or Colton] teach the recovery of solids from the ice subsequent to centrifugation.

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5. Dependent claims 8-10 specify that the recovery of solids is by washing the ice.

(Ex. 1, p. 33.)

> Muller's invention was thereby recast, and patentability over the prior art was posited by Struthers upon the feature of recovering solids from the centrifuged ice.

c. The Examiner's Second Action

In response to Struthers' new claims the examiner mailed a further official action, dated March 26, 1968, to Mr. Drucker (Ex, 1, p. 34). Examiner Greenstein cited additional prior art showing the allegedly distinguishing feature of solids recovery from the ice to be old and well known.

The 1961 Cole patent 2,967,778 (Tab M) cited by the examiner describes freeze concentration of juices "and other beverage liquids such as milk, coffee, etc." (Col. 1, lines 24-25), Cole teaches that some of the concentrate clings to the ice crystals in the centrifuge too tightly to be removed by centrifugal force, and that enough liquid containing

valuable solids clings to the ice to require removal and recovery. That removal is accomplished by treating the ice in the centrifuge with controlled amounts of water (Tab M, Col. 5, lines 38-50), a procedure the patent refers to as a "washing procedure" or "washing treatment" (Col. 6, line 18; Col. 8, lines 54-56). The washings are returned to any desired stage of the process.

The examiner also cited a 1940 Basset British patent 529,202 (Tab R), which also discloses freeze concentration of coffee extract and washing retained solids from the ice in the basket of the centrifugal "hydro-extractor", i.e., centrifuge (page 2, lines 1-7).

As Examiner Greenstein put it:

> Flosdorf teaches partially dehydrating coffee extract by freeze concentration to a solids level within the range set forth herein. The concentrate is then frozen and its moisture sublimed as claimed. The newly defined procedures of the instant claims

differ from those of Flosdorf in the additional steps of washing the centrifuged ice crystals to recover coffee solids imprisoned by the water ice and adding said recovered solids to various phases of the drying procedure. However, such steps, which are set forth for the first time, are considered to be an obvious expedient where one wishes to recover all of the flavor components of the original extract. Furthermore, those steps are deemed to be obvious because they are conventionally employed in the coffee art, as shown by the secondary references.

The examiner added that the prior art also rendered the tea claim unpatentable.

The second action was made FINAL (see 37 C.F.R. § 1.113), giving Struthers the right to appeal from the examiner's action to the Board of Appeals. Struthers did not appeal or file a written response to the second examiner's action. Instead, Mr. Drucker had an interview with Examiner Greenstein.

d. The Interview with the Examiner

There is no written record which summarizes or other wise reveals the discussion that was had during the ex

parte interview between Mr. Drucker and Examiner Greenstein. The form letter mailed April 25, 1968 (Ex. 1, p. 37) states that the interview occurred on April 23, and the paper mailed April 30, 1968 (Ex. 1, p. 38) states that "agreement was reached" at the interview to the changes it sets forth. The reasons advanced by Mr. Drucker, which caused the examiner to withdraw his rejections, do not appear in the official file wrapper.

As is seen from the comparison chart (Appendix A), application claim 7 (which became claim 1 of the '007 patent) was amended to cancel the very feature -- recovery of solids from the ice subsequent to centrifugation -- upon which Mr. Drucker had previously posited patentability of that claim over the prior art cited in the first rejection.

Other changes were also made[6], and application claims 7-10 were allowed. They appear as claims 1-4 of the '007 patent.

The Patent Office record does not disclose how application claim 7 (patent claim 1), after amendment to eliminate

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6. The preamble of patent claim 1 recites that its process produces dehydrated coffee which is readily soluble in cold water. That, however, is merely an intrinsic characteristic of freeze dried coffee, which is inherently highly porous, as pointed out in the Irwin patent (p.2, right col., lines 26-32, Tab D). Amending the claim to recite a known and intrinsic characteristic of the product does nothing to render patentable the process to which the claim is directed. So also, the amendment of clause (d) to recite a suitable range of moisture content in the dehydrated product does not impart patentability, see Application of Clinton, et al., 527 F.2d 1226, 1229 (CCPA 1976), particularly as Muller's own specification states that drying to such a moisture content is "generally" employed in the prior art (007 patent, Col. 4, lines 26-27). Further, it would appear that the precise moisture content added to clause (d) -- about 1 to 5 per cent -- was set forth in the 1963 Sivetz text on Coffee Processing Technology, Vol. 2, pages 102, 103.

the solids recovery feature, could have been regarded as patentable over the art cited in the first action. In that action, as described above, the examiner had rejected the claims "as fully met by Flosdorf", and had additionally rejected them as unpatent able over Irwin or Colton in view of Noyes. These were rejections Struthers did not challenge but, instead, sought to avoid by presenting new claims including the solids recovery feature. Application claims 8-10 (patent claims 2-4) recite washing the ice, but that feature was established by the examiner in the second action to be only an obvious variant shown in the Cole and Basset patents he cited.

The file wrapper does not suggest why the examiner reversed his previous positions. The record also lacks and statement of the reasons advanced by Mr.

Drucker in support of his oral request at the interview for reconsideration of the final rejection of the claims.

The absence of a written record violated Patent Office rules, see, e.g., 37 C.F.R. §§ 1.2, 1.111, 1.133. The official action of the examiner issued after the interview did not, as Struthers contends, constitute compliance with these rules. The consequences which should flow from these violations will be discussed in later sections of this opinion.

In addition to the changes in the claims referred to above, there appeared in the '007 patent allowed by the examiner after his interview with Mr. Drucker claim 5 -- the product-by-process claim. Struthers had made no written request for that type of claim. Patent Office regulations in effect at the time, as set forth in the Manual of Patent

Examining Procedure, permitted that form of claim only in certain circumstances, and only if the applicant submitted a required showing. Thus, § 706.03(e) of the Manual provided:

> An article which cannot be described in any other manner, may be claimed by a process of making it * * *. Applicant must, however, make a showing that the product cannot be described except by reference to the precess of making it. (Emphasis supplied.)

No such showing appears in the file wrapper of the '007 patent, notwithstanding the Patent Office requirement that all business be transacted in writing. Nor is it shown how Mr. Drucker persuaded the examiner to grant such a claim which had not been requested in writing.[7]

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7. After issuance of the '007 patent Struthers, proceeding under 35 U.S.C. § 255, twice sought and obtained the correction of errors allegedly of a clerical or typographical nature. First,

(Footnote #7 cont.,)
the "--50°C" temperature appearing in the last line of claim 1 was changed to read "--45°". Second, the pressures used during freeze drying, which originally read "from 250 mm. of Hg to 200 mm. of Hg", were changed to read "from .250 mm. of Hg to .200 mm. of Hg". It is Nestle's contention that Struthers failed to comply with statutory and regulatory requirements when it obtained these amendments. It is unnecessary to decide that issue for the purposes of the pending motions.

2. The Muller II Application

In June, 1968, after the Muller I application had been allowed, Struthers filed the Muller II application (Serial. No. 738,776; Ex. 2). The Muller II specification is essentially identical to that of the Muller I application as filed, except that it contains the "up to about 50 percent" disclosure at page 6, line 21 (Ex. 2, p. 9) which was not contained in Muller I as filed. Original claim 1 of the Muller II application largely paralleled the original claim of the Muller I

application, but was directed to vegtable product extracts. There were dependent claims to coffee and tea, and there was also a product-by-process claim (Ex. 2, p. 13).

Struthers sued General Foods under the '007 patent on October 1, 1968, the day it issued. During the course of discovery in that action it became apparent that there might be ambiguity in the '007 patent as to the freeze drying temperature set forth at the end of claim 1. Insofar as this ambiguity persisted in the Muller II applocation it was cured by an April 24, 1969 amendment which added a new claim 11. New claim 11 (Ex, 2, p. 19) was specific to coffee and paralleled claim 1 of the '007 patent, with three differences. In clause (b), the more concentrated extract is recited in claim 11 to have a concentration of at least 30% solids, whereas patent claim 1

recites about 30% to 50% solids. In clause (c), claim 11 includes washing the extract in a centrifuge; this is the subject matter shown by the Cole and Basset patents cited by the examiner in his second action in Muller I. Third, clause (d) of claim 11 was rewritten to make plain that the temperature range applies to freezing of the extract:

> (d) Subjecting said separated more concentrated extract to further dehydration by: freezing at temperatures between about 0° and minus 45° C; sublimation of ice; and further drying under vacuum to a moisture content of 1 to 5% by weight.

New claim 11 thus repaired the deficiency of '007 claim 1, to which General Foods had drawn attention.

a. The Examiner's First Action

In December, 1969, Examiner Greenstein mailed to Mr. Drucker a first official action in the Muller II application. The examiner took exception

to designation of Muller II as a "divisional" application. By statute, 35 U.S.C. § 121, a divisional application is one filed as a result of a requirement for restriction (also known as a requirement for division) between independent and distinct inventions claimed in a prior application. See also 37 C.F.R. § 1.142. In the event two distinct inventions are initially claimed in an application and the Patent Office requires restriction between them, the applicant must elect which one he wishes to prosecute in that application. The other invention may be made the subject of a divisional application. § 121 provides that in the event of such a requirement for restriction, the patent issuing on either application cannot be used as a reference against the other.

Examiner Greenstein pointed out that there had been no requirement for

division in the Muller I application, and it was consequently improper to style Muller II as a "divisional" application. The examiner demanded a new oath, and correction of the specification (Ex. 2, p. 23). In response, Mr. Drucker acquiesced and promised to supply a new oath upon indication that Muller contained allowable (patentable) subject matter (Ex. 2, p. 29).

The examiner's first action rejected claim 11 (and dependent claims 12-14) of the Muller II application as unpatentable over claims 1 to 4 of the '007 patent. The rejection was based on the 35 U.S.C. § 101 prohibition against double patenting.

All claims in Muller II (claims 1-14) were also rejected over the counts of two interferences in which the '007 patent was then involved. Both interferences were terminated, without award of

priority, before conclusion of proceedings in the Muller II application, and they consequently had no effect on the outcome.

Product-by-process claim 2 of the Muller II application was rejected as unpatentable over the freeze dried coffee shown by the Irwin reference (Tab D). The examiner stated (Ex. 2, p. 23):

> At best there is but a difference in degree and not of kind between the instantly claimed product and that of the reference. The product is, in any event a freeze dried coffee, used in the same manner as any other freeze dried coffee product.

b. The Product-by-Process Claim

Struthers initially contested Examiner Greenstein's rejection of the product-by-process claim by pointing to the allowance of that form of claim as claim 5 of the '007 patent (Ex. 2, p. 29). In the next action, however, a

different examiner (Mr. Bashore) repeated the rejection, saying (Ex. 2, p. 32):

> Claim 2 is rejected as an improper product-by-process claim. The freeze dried product may be described in other manners without the necessity of relying on a description of the process by which it is made.

Struthers thereafter did not make a showing in support of that form of claim but, rather, acquiesced in the rejection by cancelling claim 2 (Ex. 2, p. 40).

c. The Double Patenting Rejection

In response to the double patenting rejection made in the first action, Mr. Drucker inquired as to the possibility of overcoming that rejection by filing a terminal disclaimer (Ex. 2, p. 29). Examiner Bashore replied in the second official action that a terminal disclaimer would not overcome that rejection (Ex. 2, p. 32). Nonetheless,

in March, 1972 a terminal disclaimer was filed; it was signed by Mr. Drucker in his capacity as Vice President of Struthers Scientific (Ex. 2, p. 21). That instrument disclaimed the terminal portion of any patent granted on the Muller II application which would extend beyond the expiration date of the '007 patent. By filing the terminal disclaimer Mr. Drucker conceded that the terms of the Muller II application were not patentably distinct from the subject matter patented in the '007 patent, Application of Vogel, 422 F.2d 438 (CCPA 1970); Manual of Patent Examining Procedure § 804.

d. The Prior Art Rejection

In the second official action all claims in the Muller II application were rejected over prior art (Ex. 2, p. 33). The rejection was based upon Struthers' own Ganiaris patent 3,283,522 (Tab O) in

view of the 1942 Irwin patent (Tab D) which had been cited in the Muller I case. The Ganiaris patent was cited as teaching freeze concentration of tea and coffee extracts, as well as washing of the separated ice. Irwin was cited to show vacuum drying of coffee extract by sublimation (freeze drying). Another reference (Togashi) was cited against a tea claim, which was later cancelled.

The second action was made FINAL, and Struthers there upon appealed to the Patent Office Board of Appeals (Ex. 2, p. 36).

e. Muller II - The Decision of the Board of Appeals

The decision of the Board of Appeals was rendered January 12, 1973 (Ex. 2, p. 78). As to the double patenting rejection the Board took note of the recent decision in Application of Vogel, 422 F.2d 438 (CCPA 1970), which required

identity of subject matter claimed in a prior patent and a later application in order to meet the "same invention" test (i.e., the situation which cannot be overcome by the filing of a terminal disclaimer). The Board stated:

> In the instant case, the appealed claims set forth a process which is almost exactly the same as the claims of U.S. 3,404,707 [sic: 3,404,007, the Muller patent cited on the previous page of the Board's decision]. Even though the differences between the appealed claims and the patent claims are so small as to be almost non-existent, the fact remains that the claims are not drawn to identical subject matter. Under the identity of subject matter tests required by the CCPA, we cannot sustain the examiner's rejection.

The Board then went on to affirm the rejection of all claims remaining in the application as being unpatentable over the combination of the Ganiaris '522

patent and the Irwin '447 patent.[8] After discussing the disclosures of the two references, the Board stated:

> In summary, Irwin shows the freeze drying of coffee extract and indicates that concentration of the brew is preferable prior to dehydration. Ganiaris shows a concentration procedure useful prior to preparation of an instant coffee. It is our opinion that the use of the Ganiaris concentration procedure in combination with the Irwin dehydration method would be clearly obvious to the skilled worker in the art.
>
> Contrary to the appellant's assertion, there is a clear link between the combination of references cited by the Examiner. Even though Ganiaris shows no drying step, it is clearly suggested that the concentration of the extract is preliminary to the preparation of instant coffee. Instant coffee may be prepared by the method of Irwin,

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8. The Board did not have before it a rejection based on the Flosdorf '681 patent, over which all claims of the Muller I application had been rejected by Examiner Greenstein under § 102. Examiner Bashore had not cited that patent in his prior art rejection in Muller II, and Mr. Drucker had not brought it to the attention of the Examiner.

> and, as pointed out above, concentration prior to drying is Irwin's preferred embodiment. Washing of the ice crystals in the centrifuge is shown in Ganiaris' Figure 2. These washings are recirculated into the system and will be ultimately dried along with coffee extract when the dry coffee is produced. Irwin shows the same dehydration procedure as used in the appealed claims, i.e., freeze drying. No particular temperatures are recited for the freezing of coffee extract. However, it is clear that temperatures sufficient to freeze the material must be used. Determination of the proper temperature would be merely routine experimentation which is within ordinary skill in the art.
>
> (Ex. 2, pages 81-82.)

Struthers elected not to exercise its right of appeal either to the CCPA under 35 U.S.C. § 141 or to the United States District Court under 35 U.S.C. § 145, and, instead, permitted the Board's adverse judgment to become final. 37 C.F.R. § 1.197 (c)

3. The Muller III Application (the '522 Patent)

The Muller III application (Serial No. 829,613; Ex. 3) was filed June 2, 1969, well subsequent to issuance of the '007 patent and some 3-1/2 years after the Muller I application was filed. The Muller III specification is essentially similar to that of the Muller II case. In Muller III Struthers, for the first time, presented claims to apparatus.

Both the oath (Ex. 3, p. 15) and the specification (Ex. 3, p. 5) of Muller III represented that application to be a "division" of Muller II; they also represented Muller II to have been a "division" of Muller I. See ante, page 55-56. Muller I and Muller II were examined in Patent Office Art Group 170; Muller III was examined in a different art group, Group 360. Struthers did not inform the Muller III examiner (Mr.

Jenkins) that there had been no requirement for division in either Muller I or Muller II, and Mr. Jenkins did not cite the '007 patent against the Muller III apparatus claims.

The notice of allowance of Muller III (Ex. 3, p. 26) and Examiner Greenstein's action in Muller II objecting to designation of that application as a division (Ex. 2, p. 22) were both mailed the same day, December 12, 1969. Struthers did not bring to Examiner Jenkins' attention in Muller III the objection advanced by Examiner Greenstein in Muller II to designation of the latter as a divisional application. Struthers paid the issue fee for Muller III on December 16, 1969 (Ex. 3, p. 27) and concurrently requested that the patent issue on the earliest possible date (Ex. 3, p. 28).

The apparatus claims of Muller III

are in "means" form; that is, each of the several clauses recites means for performing a stated function. The claims were allowed as filed, with only minor changes effected by an examiner's amendment mailed November 4, 1969 (Ex. 3, p. 17). The examiner cited a number of items of prior art (Ex. 3, p. 19) which he said had been considered (the Muller '007 patent is not among those listed).

Muller III issued as the '522 patent on February 17, 1970 (Ex. 3, p. 21).

C. The CCPA Clinton Decision

While Struthers pursued the Muller applications, General Foods sought to patent essentially the same freeze con centration/freeze dry subject matter in its Clinton, et al patent application.[9]

9. The General Foods' Clinton, et al. appliocation additionally claimed "dewaxing", a topic considered in connection with the Struthers' Reimus patents.

The Clinton, et al. application (Serial No. 830,195) had been involved in interference with the Muller '007 patent, and Clinton, et al. had been accorded benefit of the May 5, 1965 filing date of their parent application (Ex. 1, p. 65). That interference was terminated in April, 1972, after settlement of all litigated matters between Struthers and General Foods in February, 1972 (Ex. 2, p. 57). Thereafter, General Foods sought to obtain patent claims to freeze concentration and freeze drying of coffee extract.

As Clinton's May 5, 1965 effective filing date was earlier than Muller's January 28, 1966 filing date, the Muller patent was not prior art as against Clinton, et al.

The essential identity of the subject matter Clinton sought to patent and the

subject matter patented to Muller is shown by the following side-by-side comparison of their two principal claims (the text of the Clinton claim appears in the CCPA opinion):

Muller '007 Claim 1	Clinton Claim 1
1. A process for the preparation of a dehydrated coffee beverage product which is readily soluble in cold water, said process comprising:	1. A process for preparing a granular freeze-dried coffee having a dark color, which comprises
(a) preparing an aqueous coffee extract containing about 10 to 30 percent by weight of disolved solids;	percolating roasted and ground coffee to obtain a coffee extract containing 20-35% soluble solids and desired flavor and aroma values,
(b) subjecting said extract to concentration by partial freezing to form ice crystals and a more concentrated extract containing about 30 to about 50 percent by weight of solids;	freeze-concentrating said extract to a solids level of 35-53% by partially freezing the water in said extract as ice crystals and
(c) separating said	removing said

more concentrated extract from said ice crystals by centrifugation; and

ice crystals from the concentrated extract,

(d) subjecting said more concentrated extract to a relatively complete dehydration by freezing the extract to a solid mass and freeze drying to a moisture content of about 1 to 5 percent at temperatures between about 0° to --45°C.

cooling said concentrated extract to below its eutectic point, grinding the frozen extract to a granular particle size, and then freeze-drying said granular frozen extract to between 1 and 2.5% moisture under vacuum conditions of less than 500 microns while maintaining the product temperature of said coffee below 120°F.

Pursuant to 35 U.S.C. §141, General Foods appealed to the United States Court of Customs and Patent Appeals from the examiner's final rejection of the Clinton claims, which the Board of Appeals had affirmed. That Court, in turn, affirmed. Application of Clinton, et

al., 527 F.2d 1226 (CCPA 1976).

As the Court's opinion reflects, the Clinton, et al. claims were rejected over the Flosdorf '681 patent (Tab H) considered with the Colton '687 patent (Tab J) and Sivetz (Tab U); alternatively, the claims were rejected over Clinton, et al. '784 (Tab P) considered with the Ganiaris '522 patent (Tab O) (527 F.2d at 1228). The Court summarized each of the prior art references, but in the portion of the decision headed "OPINION" the Court rested its affirmance of the rejection on Flosdorf '681 alone (with reference to a Cottle patent as to the dewaxing claims). The Court stated:

> We first consider the references by themselves and see whether they suggest doing what appellants have done. [Citation omitted.] Flosdorf alone suggests subjecting a coffee extract to a combination of freeze concentration and freeze drying.

(527 F.2d at 1228.)

The Court of Customs and Patent Appeals thus affirmed the rejection of claims to freeze concentration and freeze drying of coffee over the same Flosdorf '681 patent which Examiner Greenstein originally had regarded as a complete anticipation of Muller's claims im the Muller I application (which became the '007 patent). As noted above, the Muller I file wrapper does not give the slightest hint why the examiner abandoned that position.

D. Prior Sale - Nestle's and Struthers' Contentions

Nestle urges as an additional ground for its motion for summary judgment of invalidity of the '007 and '522 patents the prior offer for sale, sale and use of the subject matter those patents claim.

1. Facts Relied upon by Nestle

Nestle relies upon data Struthers

supplied in response to discovery requests in the General Foods case and in the present case to establish that the subject matter of the '007 and '522 patents was in public use or on sale in this country more than one year prior to the date of application of those patents and that, therefore, the two patents are invalid under 35 U.S.C. § 102(b). The material upon which Nestle relies is as follows:

Struthers published a five-page advertising brochure captioned STRUTHERS "FRECON" PROCESS QUESTIONS AND ANSWERS, bearing a revision date of 11/27/64 (Item 7 in Struthers Production Book), which is more than one year prior to the filing date of Muller I. "FreCon" is Struthers' acronym for freeze concentration. That advertising brochure included the following statements (all emphasis is supplied):

5. Q. What products have been successfully concentrated by the "FreCon" process?

A. To date, the following products have been successfully concentrated by the "FreCon" process:

Coffee Extract

It is thought that virtually all comestible liquids could be successfully concentrated by the "Fre Con" feeeze concentration technique.

7. Q. What is the difference between freeze concentration and freeze drying?
A. * * * Freeze concentration is far less expensive than freeze drying per pound of water removed. Thus, where it is desired to reduce a liquid to a dried product, it is more economical to install a freeze concentration plant as the first step followed by freeze drying.

* * *

11. Is the Struthers "FreCon" process really perfected yet?

A. Yes. Struthers is now prepared to supply complete "FreCon" plants of any size on a firm price-guaranteed performance basis.

12. Q. What does the "FreCon"

process cost?

A. * * * Recent proposals on Struthers' "FreCon" plants to concentrate coffee extract to 45% solids from 25% solids shows an overall cost of $.03 per pound of dry coffee solids.

* * *

14. Q. Is it possible to rent a pilot plant so that client can evaluate the "FreCon" process in his own plant on fresh material using his own operating staff?

A. Yes. Struthers is prepared to rent for use in the client's own plant a portable freeze concentration unit capable of producing 100-150 pounds per hour of 40-50 Brix concentrate from fresh whole juice. This unit, complete with all auxilliaries, including an ammonia refrigeration system, is presently mounted on a railroad flat car. If necessary, it can be transferred to a truck trailer.

On the basis of this brochure Nestle argues that the subject matter claimed in the Muller patents was on sale more than one year prior to the filing of the Muller I application.

In addition, Nestle urges that the

subject matter of the Muller patents was sold by Struthers to General Foods more than one year prior to the January, 1966 Muller I application, and General Foods used and practiced that subject matter. Nestle refers to Struthers' supplemental answer to Nestle's interrogatory 50:

> 50. Respondents believe that General Foods Corporation has infringed United States Letters Patent Nos. * * * 3,404,007, * * * 3,495,522 * * *. The basis of such belief lies in the fact that Struthers Scientific and International Corporation in 1964 and 1965 sold freeze concentration equipment and systems to General Foods for use in freeze concentrating coffee extract and General Foods did in fact freeze concentrate coffee extract with said equipment. * * *

A copy of the 1964 contract between Struthers and General Foods is Item 8 to the Struthers Production Book, and copy of the 1965 contract is Item 9.

Even earlier, in September, 1963, Theodore Feit of Struthers caused an article to be published in Food

Engineering News entitled, "Struthers Scientific Introduces Freeze Concentration Process" (Item 10). The publication stated Struthers had developed "a new process for concentrating comestible liquid products by freezing", including such products as fruit and vegetable juices, soups, coffee and other beverages, and that:

> Several leading food processors are currently evaluating the process for use on a commercial scale, and Struthers is offering the process, called the Struthers 'FreCon method' under license to a single processor in each field.
>
> (Item 10, page 1.) (Emphasis supplied.)

In 1964, as part of its effort to sell its freeze concentration system and equipment, Struthers made numerous contacts with major food processors. Initially, Struthers' sales department "took a rifle approach" by contacting specific companies. Shortly thereafter,

Struthers Vice President in charge of the "FreCon" division, John G. Muller, stepped in and made "a number of blanket mailings" to food companies describing the "FreCon" process and equipment, and enclosing brochures (Muller Tr. 961-962; Defendant's Deposition Ex. 16, Tab 8).

At a meeting of December 30, 1963, Struthers offered to supply to the Birds Eye Division of General Foods a "FreCon" plant at a cost of between $325,000 and $350,000, and also discussed rental of a portable "FreCon" plant mounted on a railroad flatcar (Item 11). Design drawings of the "FreCon" system for the flatcar unit were also shown to General Foods at the meeting.

In January, 1964, Struthers began assembling the portable "FreCon" plant and completed construction early in 1964 (Muller Tr. 794; Defendant's Deposition Ex. 16, Tab 8). That portable unit had

freeze concentration equipment mounted on a 60-foot railroad flatcar containing crystallizers, centrifuges, pumps, tanks, and miscellaneous equipment to practice Struthers' process of freeze concentrating comestible liquids (Muller Tr. 819; Item 1). Muller testified to the purpose for constructing the flatcar plant:

> Q. Could you tell me in your own words what the purpose of this plant was?
>
> A. Our sales engineer had been in contact with the Birds Eye Division of General Foods endeavoring to sell plants for the freeze concentration of orange juice.
>
> He had the impression, he told me that if we had a plant of some appreciable size that had been shown to operate satisfactorily on orange juice, then we would receive orders for a commercial plant.
>
> Our Board of Directors appropriated the funds to build the mobile plant to demonstrate the suitability of the process to Birds Eye and also to others.

That was the original justification for building it.

(Muller Tr. 959-60; Defendant's Deposition Ex. 16, Tab 8.)

In February, 1964, Struthers and General Foods reached agreement concerning use of the flatcar "FreCon" plant at the Birds Eye facility in Winter Haven, Florida. Despite an initial demand for a $12,000 per month rental fee (Item 11), Struthers agreed, in furtherance of its efforts to receive orders for a commercial plant, to allow General Foods to use the flatcar at Winter Haven free of charge (Item 16). Struthers made another sales concession to General Foods in agreeing to a non-confidential agreement covering the use of the flatcar at Winter Haven (Item 16, pages 1-2.)

At the same time Struthers was building its flatcar "FreCon" plant, Struthers' sales manager, J. J. Pike,

made a firm offer to sell a "FreCon" plant to General Foods' coffee arm, the Maxwell House Division.' On January 9 and 16, 1964, Pike wrote to General Foods enclosing a detailed contract proposal and process flow diagrams of Struthers' "FreCon" plant (Items 13 and 14). Pike wrote:

> In accordance with our meeting in your office on January 13, 1964, we are pleased to submit herewith our firm proposal for a plant to concentrate coffee extract from 27% by weight coffee solids to 45% by weight coffee solids via the Struthers Scientific and International Corporation freeze concentration (FreCon) process. This plant would process approximately 1,500 pounds per hour of feed and produce approximately 900 pounds per hour of 45% extract containing 400 pounds of coffee solids.
>
> (Item 14.)

This offer for sale of the "FreCon" equipment and process was for a commercial size plant. If operated continuously, the plant would process

over three million pounds of coffee solids per year. The commercial processing capacity of the "FreCon" plant was fully recognized by the parties and recited by Struthers in its offer:

> As we have discussed, this system would be supplied to the Maxwell House Division with the understanding it will be used as pilot plant facilities or possibly for use in market testing of your product. In the event you utilize this equipment in the production of a Maxwell House product to be nationally distributed, a paid-up royalty of $10,000 would be required.
>
> (Item 14.)

The General Foods' product referred to in Pike's letter was MAXIM, a freeze dried soluble coffee General Foods had recently introduced. Struthers had promoted its FreCon system for use with freeze drying, and Struthers was aware that General Foods intended to use the Struthers freeze concentration equipment in the manufacture of freeze dried MAXIM soluble

coffee (Item 15).

On April 30, 1964, in order to "expedite the project", General Foods' Maxwell House Division accepted Struthers' offer of January, 1964:

> As you know, we are now engaged in the preparation of a definitive agreement for purchase from you of the 'FreCon' equipment and process and we hope to be in a position to submit the documents to you shortly.
>
> (Item 12.)

Further to "expedite" the project, Struthers was at the time authorized to order necessary equipment and to begin necessary work, even though the formal contract of sale had not yet been executed (Item 12).

Meanwhile, the completed flatcar "FreCon" plant was sent to General Foods' Winter Haven facility. It arrived during April, 1964 and was used there for

several weeks, first to concentrate orange juice and then coffee extract (Muller Tr. 798, Item 1). Photographs of the flatcar were taken at Winter Haven (Muller Tr. 279-305, Item 1), and the flatcar plant was shown by General Foods to personnel from the Florida Citrus Commission (Muller Tr. 313-314, Defendant's Deposition Ex. 16, Tab 8).

By May 21, 1964, Birds Eye had completed its use of the flatcar "FreCon" plant for concentrating orange juice and turned over the equipment to Maxwell House Division personnel for freeze concentrating coffee extract (Item 17). Coffee extract was shipped from a nearby General Foods' facility and personnel from General Foods' Hoboken coffee manufacturing plant were present during the freeze concentration runs using coffee extract. Near the end of May, 1964 General Foods completed its

evaluation of the "FreCon" system and returned the unit to Struthers.

Arrangements were made for Maxwell House to make further use of the "FreCon" plant and on about August 10, 1964 the flatcar arrived at the Hoboken coffee plant. Coffee extract was freeze concentrated in the flatcar unit from a 24% to 26% initial concentration to a 43% to 45% final concentration (Item 19). That use ended and the flatcar "FreCon" plant was removed from Hoboken in September, 1964.

Negotiations for the formal contract of sale continued during the spring and summer of 1964, and on August 12, 1964, Struthers and General Foods entered a "Contract of Sale for Freeze Concentration Equipment" (Item 8). The contract provided:

> Struthers shall sell to General Foods, and General Foods shall

> purchase from Struthers, the freeze concentrating equipment enumerated and described in the attached specifications marked 'Exhibit A' for the price, upon the terms of payment, and subject to the terms and conditions hereinafter stated.
>
> (Item 8, p. 1)

The equipment contracted for was actually delivered to General Foods' Hoboken plant during November and December, 1964. It included means for washing ice in the centrifuge (Struthers Answer to General Foods' Interrogatory 119; Item 21). General Foods' commercial use of the equipment sold under the first contract is also confirmed by a reconciliation of charges included in a second contract of September 30, 1965 (Item 9). The reconciliation states: "Prepaid royalty for commercial use of plant -- $10,000."

2. Facts Relied upon by Struthers

Struthers correctly notes that under § 102(b) any sales or offers for sale of

the inventions claimed in the '007 and '522 patents within one year prior to January 28, 1966, (the date of filing of Muller I application) would not invalidate that patent. (The '522 patent, Muller III, has the same effective filing date as Muller I.) Thus, references to sales, offers to or use of those inventions in 1964 and 1965 are not sufficient to establish § 102(b) invalidity, since all but the first twenty-eight days of 1965 are within the one-year period exempted under § 102(b).

Struthers contends that not only has Nestle failed to establish a sale, offer to sell, or use within the one-year period, it has failed to establish that what was sold to General Foods was, in fact, the invention claimed in the '007 and '522 patents.

Referring to Struthers' supplemental answer to Nestle Interrogatory 50, which

is quoted above, Struthers asserts that the answer does not indicate that Struthers believed that the sale and use of the "FreCon" equipment and system in it self constituted infringement of Struthers' patents. It simply indicates (1) that Struthers sold equipment which, if employed in the manner disclosed by the Muller patents (e.g., the particular combination of steps there set forth was followed and the precise temperature, pressure and solids content ranges were adhered to) could be used to copy the Muller inventions, and (2) that Struthers believed that General Foods did, in fact, use the equipment in the manner taught by the patents. Struthers further notes that the interrogatory answer stated only that freeze concentration equipment and systems were sold to General Foods, whereas the '007 and '522 patents contemplated a freeze concentration step

followed by a freeze drying step. Similarly, Struthers points out, the article, the brochure, and the deposition testimony upon which Nestle relies refer to freeze concentration, not freeze drying.

Finally, to establish that the sales to General Foods did not include the inventions claimed in the '007 and '522 patents, Struthers offered paragraphs 58-60 of the Neophytos Ganiaris affidavit, which read:

> 58. The applications for the '007 and '522 patents were filed or effectively filed on January 28, 1966. Accordingly, any sales which would be a statutory bar to their validity would have to have taken place proir to January 28, 1965.
>
> 59. The only sale by Struthers to General Foods prior to January 28, 1965 was pursuant to an agreement dated August 12, 1964. That agreement did not provide for any freeze drying apparatus, process technology or know-how. Struthers, for example, did not sell

> 'subjecting said more concentrated extract to relatively complete dehydration by freezing the extract to a solid mass and freeze drying to a moisture content of about 1 to 5 percent at temperatures between about 0° to --45° C.'

as set forth in claims 1(d) of the '007 patent, nor did Struthers sell the combination of claim 1(d) with the remaining steps of that claim.

60. Nor, for example, did Struthers sell either

> 'freezing means for freezing the extract;' or 'means for removing moisture under vacuum from frozen extract by sublimation;' or
>
> 'heat source means coacting with vacuum means for heating and drying the frozen extract.'.

as set forth as subparts (d), (e) and (f) in the '522 patent. The combination of claims 1(d), (e) and (f) with the remaining elements of that claim was likewise not sold to General Foods.

E. Invalidity over the Prior Art

1. Presumption of Validity

The determination of the validity of a patent must begin with the presumption that it is valid, a presumption which can

be overthrown only by clear and convincing evidence. 35 U.S.C. § 282; e.g., Universal Athletic Sales Co. v. American Gym, Recreational & Athletic Equipment Corp., 546 F.2d 530, 540 (3d Cir. 1976), cert. denied, 430 U.S. 984 (1977). The presumption can be overcome by clear and convincing evidence, Aluminum Co. of America v. Amerola Products Corp., 552 F.2d 1020 (3d Cir. 1977), and its effect can be vitiated by a number of factors, such as irregularity in Patent Office procedures or withholding material facts, Monsanto Co. v. Rohm & Haas Co., 456 F.2d 592 (3d Cir.), cert. denied, 407 U.S. 934 (1972), or failure of the examiner to consider relevant prior art during prosecution of the patent application, Phillips Electronics & Pharmaceutical Industries Corp. v. Thermal & Electronics Industries, Inc., 450 F.2d 1164 (3d Cir.

1971).

The presumption of validity of the '007 and '522 patents has been weakened, if not destroyed, by one or both of two factors.

As described above, the examiner reversed himself and allowed claim 1 of the '007 patent and allowed product-by-process claim 5 after a conference with Mr. Drucker and without a written record of the conference or of the reasons for his change of position as to claim 1 or allowance of new claim 5.

It is the purpose of the file wrapper to make available for all to see the entire prosecution of an application, including the reasons rejections were withdrawn and the patent claims were allowed. See Graham v. John Deere Co., 383 U.S. 1, 33 (1966):

> It is, of course, well settled that an invention is construed not only in

> the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office. Hogg v. Emerson, 11 How. 587 (1850); Crawford v. Heysinger, 123 U.S. 589 (1887). Claims as allowed must be read and interpreted with reference to rejected ones and to the state of the prior art; and claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent. Powers-Kennedy Co. v. Concrete Co., 282 U.S. 175, 185-186 (1930); Schriber Co. v. Cleveland Trust Co., 311 U.S. 211, 220-221 (1940).

Thus, information concerning allowance of the '007 patent claims is unavailable in the file wrapper, notwithstanding Patent Office rules which require a complete written record of the proceedings.

To that end, Rule 2 of the Patent Office Rules of Practice in patent cases, 37 C.F.R. § 1.2, provides:

§1.2 Business to be transacted in writing.

> All business with the Patent and Trademark Office should be transacted

> in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

Concerning interviews, 37 C.F.R. § 1.133 provides:

* * *

> b) In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for response to Office actions as specified in §§ 1.111, 1.135.

37 C.F.R. § 1.111 (referred to in the Rule quoted above) prescribes:

> §1.111 Reply by applicant.
>
> (a) After the office action, if adverse in any respect, the applicant, if he persist in his application for a patent, must reply thereto and may request reexamination or reconsideration, with or without amendment.
>
> (b) In order to be entitled to reexamination or reconsideration, the

applicant must make request therefor in writing, and he must distinctly and specifically point out the supposed errors in the examiner's action; the applicant must respond to every ground of objection and rejection in the prior office action (except that request may be made that objections or requirements as to form not necessary to further consideration of the claims be held in abeyance until allowable subject matter is indicated), and the applicant's action must appear throughout to be a bona fide attempt to advance the case to final action. A general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section.

(c) In amending an application in response to a rejection, the applicant must clearly point out the patentable novelty which he thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He must also show how the amendments avoid such references and objections. (See §§ 1.135 and 1.136 for time for reply.)

These rules, all of which were applicable and in force at the relevant times, were duly promulgated pursuant to

35 U.S.C. § 6(a), and consequently have the force and effect of law.

Struthers has filed affidavits of Mr. Drucker and of David J. Galvin, a patent attorney and former patent examiner, asserting that the procedure followed in prosecuting the applications leading to the '007 and '522 patents was proper. They asserted that the papers prepared and filed by the examiner constitute the written record required by Patent Office regulations, and nothing more is required.

At an earlier stage in this case, Nestle moved for partial summary judgment of invalidity and unenforceability of five of the patents in issue (including the '007 patent) on the ground of Struthers' failure to comply with applicable regulations pertaining to prosecution of the applications before the Patent Office. Judge Meanor, who heard the motion, denied it, stating that

assuming "that prosecution of these five patents was not made in full compliance with the rules of the Patent Office, there is no basis in law for granting summary judgment of invalidity". He noted, however, that "an incomplete written record might result in a weakening of the statutory presumption of validity. Hall v. U.S. Fiber Plastics Corp., 341 F. Supp 978 (D.N.J. 1971) (Coolahan, J.)"

Whatever the general practice before the Patent Office may be, it is clear that inadequacies in the written record in the '007 file wrapper constitute a departure from the spirit and purpose of the regulations quoted above. A person reviewing the file wrapper cannot fathom the reasons why certain critical actions were taken, and thus the basis for according the actions of the Patent Office presumptive validity is weakened.

In a subsequent section of this opinion I set forth my reasons for concluding that there is no genuine issue of material fact that the inventions of the '007 and '522 patents were on sale more than one year prior to the date of the patent applications. This fact was not disclosed to the Patent Office. While it can not be held as a matter of law that this non-disclosure constituted fraud on the Patent Office, De Long Corporation v. Raymond International, Inc., 622 F.2d 1135 (3d Cir. 1980), it is a circumstance which weakens the presumption of validity of the '007 and '522 patents, Kraftco Corp. v. Beatrice Foods Co., 342 F. Supp. 1361 (D.N.J. 1971).

Notwithstanding these factors which tend to weaken or destroy the presumption of validity, I shall give the '007 and '522 patents all the benefits of an

unweakened presumption of validity in determining the merits of the remaining grounds of Nestle's motion for summary judgment. I believe the results would be the same with or without the presumption. Cf., Northern Engineering and Plastics Corp. v, Roger Eddy, Docket No. 80-2218 (3d Cir. June 25, 1981), slip op. at 11. As stated in Alco Kar Kurb, Inc. v. Ager, 286 F.2d 931 (3d Cir. 1961):

> But respect for such considered administrative decision does not justify abdication of the normal judicial function. It still remains the responsibility of the United States Courts to see that patent monopoly is enjoyed only pursuant to a correct standard of invention properly applied.

2. Summary Judgment Standards

Struthers correctly states that on a motion for summary judgment only undisputed facts entitle the moving party to prevail, and any genuine issue of material fact must defeat the motion. As

stated in De Long Corp., supra,

> [4] When considering a motion for summary judgment, a court is required to resolve all ambiguities and draw all reasonable inferences in favor of the party against whom summary judgment is sought. United States v. Diebold, 369 U.S. 654, 655, 82 S.Ct. 993, 994, 8 L.Ed. 2d 176 (1962). See Smith v. Pittsburgh Gage & Supply Co., 464 F.2d 870, 879 (3d Cir. 1972). Furthermore, even when the material facts are not in dispute, summary judgment may be inappropriate when contradictory inferences may be drawn from the facts. See United States v. Perry, 431 F.2d 1020 (9th Cir. 1970). Thus, the moving party must demonstrate that there is no genuine issue of material fact and that he is entitled to judgment as a matter of law. See Lockhart v. Hoenstine, 411 F.2d 455 (3d Cir.) cert. denied, 396 U.S. 941, 90 S.Ct. 378, 24 L.Ed.2d 244 (1969).
>
> At 1141.

Nestle urges invalidity of the '007 and '522 patents on the grounds of obviousness over the prior art.

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

> been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> 35 U.S.C. § 103

While the ultimate question of patent validity is one of law, Great A. & P. Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147 (1950), the determination of validity or invalidity under § 103 is dependent upon three factual inquiries: (i) determination of the scope and content of the prior art, (ii) ascertaining the differences between the prior art and the claims at issue, and (iii) resolving the level of ordinary skill in the pertinent art. Graham v. John Deere Co., 383 U.S. 1 (1966); Northern Engineering and Plastics Corp. v. Roger Eddy, supra.

The subject matter of the art in the

present case is freeze concentration and freeze drying in the manufacture of powdered soluble food products.

In this case the scope and content of the prior art can be readily ascertained by an examination of the exhaustive record consisting of prior art patents and other publications which has been presented to the Court. Similarly, the differences between this prior art and the claims at issue can be readily ascertained by a simple comparison.

Struthers argues strenuously that the third factual inquiry (obviousness to a person having ordinary skill in the art) cannot be made without the assistance of expert testimony, that it has submitted the affidavit of one of its officers, Neophytos Ganiaris, on the subject, that Nestle has submitted nothing in opposition to that affidavit, and that even if Nestle did submit evidence to

contradict Ganiaris there would remain a factual issue precluding summary judgment.

I have concluded, however, that this is a case where the opinion of experts is not necessary, and that I can and should decide the § 103 issue on the basis of the undisputed facts which are in the record. The technology involved is not complex. We are not dealing with difficult chemical, physical, mathematical or electronic concepts or devices. Rather, the patents involved (the '007 and '522 patents and also the other eight patents in suit) are readily understandable and concern processes and devices which employ familiar concepts.

By reason of the multiplicity of the patents in suit and the extensive discovery taken not only in this suit but also in the earlier General Foods litigation, an extensive record is available, and I can only assume that no

portion of that record useful to either party has been omitted from the papers filed in support of or in opposition to Nestle's motions. The facts upon which the decision must be made are established by official records of Patent Office proceedings, documents the authenticity of which is not disputed, and testimony or statements of Struthers' employees.

The motions have been exhaustively briefed by very able counsel and argument was conducted for the better part of four days.

Struthers contends that granting summary judgment in this case would be in conflict with Judge Latchum's decision in Struthers Scientific & Int. Corp. v. General Foods, Corp., 314 F. Supp. 313 (D. Del. 1970), in which he denied General Foods' motion for summary judgment with respect to Struthers patents Nos. 3,381,302 and 3,449,129 (but

not with respect to either Muller patent). Of necessity, the record before Judge Latchum must have been very different from, and far less extensive than, the record in the present proceeding. The instant case had not yet been commenced, and when it was commenced it put in issue a number of patents which were not involved in the General Foods litigation. Further, neither the CCPA opinion in Clinton nor the Board of Appeals decision in Muller II were available to Judge Latchum. In any event, it is necessary that I decide on the basis of the record in this case whether summary judgment is appropriate.

In Borden Co. v. Clearfield Cheese Co., 369 F.2d 96 (3d Cir. 1966), the Court of Appeals adopted the guideline set forth in Messing v. Quiltmaster Corp., 159 F. Supp. 181 (D.N.J. 1958), for determining when a summary judgment

on the question of patent validity is appropriate:

> . . . the court must be certain that it does not need any expert testimony or other extrinsic evidence to explain or evaluate the prior art, or to explain the application of complicated patent descriptions to the subject matter of the patent so that by a mere comparison of the patent in suit with the prior art patents the court can comprehend the similarities or differences in the patents, invalidity for lack of invention being so clearly apparent on the face of the patent that no testimony could change that conclusion.

I believe that this is the kind of case where expert opinion is not required. The basis for this conclusion should become apparent during the course of this opinion as the prior art and the patent claims in issue are discussed. We are dealing with circumstances similar to those in Allen-Bradley Company v. Air Reduction Company, 273 F. Supp. 930 (W.D. Pa. 1967), aff'd, 391 F.2d 282 (3d Cir. 1968), and in C-Thru Products, Inc, v.

Uniflex, Inc., 262 F. Supp. 213 (E.D.N.Y. 1966), aff'd, 397 F.2d 952 (2d Cir. 1968). The Court of Appeals stated, in the latter case:

> In many cases involving a question of patent validity such inquiry involves consideration of technical questions which are often best understood with the aid of expert testimony. But in this case, as Judge Bartels pointed out . . . the prior art and the patent claims are not complex and are easily understandable without expert aid. This is one case where it truly would be 'an absurd waste of time and effort' to deny summary judgment.

3. '007 Patent Prior Art

The subject matter of the '007 patent is a process for making concentrated coffee or tea in dry form by freeze concentration of an aqueous beverage extract in which solids are recovered from the ice crystals and the concentrated extract is freeze dried. As Mr. Drucker stated when he sought to distinguish the 1935 Krause British

patent, "It is the essence of the present invention to start with a suitable concentrate, as does Krause, but there after to subject it only to a cold desiccation so as to avoid the volatilization of delicate flavor substances which would be lost in spray or drum drying . . . " (Ex. 1, p. 21). Thus, the freeze drying element of the process (following freeze concentration) was claimed to be the essence of the invention.

The patent itself sets forth one publication and twenty patents which describe "various processes for freeze concentration" (Col. 3, lines 59-68), as well as two publications and twenty-nine patents which describe "freeze drying processes and equipment". (Col. 4, lines 5-17.)

John G. Muller, the named inventor, testified in the General Foods litigation

that he did not consider freeze concentration of coffee extract, or separating ice from the concentrated extract, or freezing the concentrated extract to the temperatures set forth in his patents, or freeze drying, or the final moisture content of the product, to be new or to be his invention (see Item 1, pp. 1200-1201 in the Struthers Production Book). Muller admitted under oath, "I didn't invent the idea, and I didn't claim I did, of combining freeze concentration with freeze drying." (Pg. 1614).

Nestle has placed in the record numerous patents and other documents constituting prior art. Some were cited by the Patent Office; others were not.

Of particular note is Flosdorf 2,509,681 (1950), which was cited by the Patent Office. It teaches a combination of freeze concentration with freeze

drying (the essence of the '700 invention). It is applicable to various products, including coffee extract. The liquid is preconcentrated in any suitable manner, examples being given of vacuum evaporation and freeze concentration. The preconcentrated product is then frozen, and freeze dried by sublimation under vacuum.

Also to be noted are Irwin 2,292,447 (1942), which was cited by the Patent Office, and Ganiaris 3,283,522 (1966; filed 1963), which was not cited by the Patent Office. The former discloses a process for freeze drying food products, including coffee. It also teaches that in order to reduce operating expenses, the extract should be concentrated prior to freeze drying. The product produced by the process is said to have improved aroma and taste. Ganiaris '522 describes a process for freeze concentrating coffee

extract prior to drying. Extract of 10% solids is concentrated to 46% solids. Ice is separated by centrifugation. The ice is washed and coffee solids are recovered from the washings either by recycling them to the crystallizers or the percolators, or by evaporating water from the washings. Thus, Irwin shows freeze drying of coffee extract which has first been concentrated and Ganiaris shows the concentration procedures of Muller's claims.

Other examples of prior art are referred to in the section of this opinion describing the prosecution of the Muller I application. Still others will be referred to in the subsequent section dealing with the differences between the prior art and the '007 claims.

4. Differences between the Prior Art and the '007 Claims

The Ganiaris affidavit sets forth purported differences between the prior art references and the '007 and '522 claims -- differences, it is argued, which would not have been obvious to a person having ordinary skill in the art to which the subject matter pertained.

As noted earlier in this opinion, the Board of Appeals held that the Muller II claims were unpatentable over the combination of the Ganiaris '522 patent and the Irwin '447 patent. The Board of Appeals correctly noted in its opinion that "the differences between the appealed [Muller II] claims and the ['007] patent claims are so small as to be almost non-existent". For the same reasons that the Muller II claims are unpatentable over the Irwin and Ganiaris patents, the '007 claims are unpatentable

over those patents. Ganiaris' affidavit seeks to demonstrate differences in the prior art which would preclude a finding of § 103 invalidity.

The Irwin reference shows freeze drying of coffee extract which has first been concentrated, and the Ganiaris reference shows the freeze concentration procedure of Muller's claims. In his affidavit (par. 38), Ganiaris states that Irwin does not specifically teach a freeze concentration process which provides "nonoccluded ice crystals". But the Muller II decision relied on the Ganiaris reference, not Irwin, as showing Muller's freeze concentration procedure, a holding which the Ganiaris affidavit significantly does not challenge.

Moreover, "nonoccluded ice crystals" are not mentioned in or a requirement of the Muller claims. Ganiaris' contention does not address anything disclosed or

claimed as being Muller's invention.

As to moisture content (par. 39), Ganiaris' earlier paragraph 20 averment snows it to be a matter of ordinary skill to dry to a moisture level at which the product is stable, while avoiding over-drying. Recitation of matter routinely determined perforce does not impart patentable distinction. Additionally, that feature of the claim reads on and encompasses matter which was known in the prior art and hence does not provide patentable distinction. For example, the July 20, 1964 article on freeze drying published in the journal Chemical Engineering lists coffee as a freeze dried product, and recommends that freeze dried products contain about 2% residual moisture (see first page). So, also, the 1956 Federal Specifications for soluble coffee describe moisture contents of about 3%. And the 1963 Sivetz book on

Coffee Processing Technology (Vol, 2, pages 102-103) not only sets forth the very 1-5% range recited in Muller's claims, but also sets forth the same reasons for those limits which Ganiaris has copied in his affidavit. Consequently, the moisture range recited in Muller's claims does not distinguish over, but, rather, is inclusive of, that prior art knowledge, and does not represent an advance in the art or a patentable distinction.

Ganiaris' paragraph 49 averments concerning his own '522 patent are likewise beside the point and irrelevant. That the '522 concentration procedure could be used to prepare other products is irrelevant; for Ganiaris expressly concedes that the instant coffee referred to in his patent <u>includes</u> freeze dried coffee.

Accordingly, the differences which

Struthers advances between the '007 claims and the prior art applied in Muller II do not impart patentable distinction.

With respect to the Flosdorf '681 patent,[10] Ganiaris advances three differences between it and the '007 patent: (i) It does not specify whether the ice formed in the concentration process would be discrete ice crystals in which coffee solids would not be occluded, as in the case of the '007 patent, or whether the ice would be non-crystalline, in which case the coffee

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10. Earlier in this opinion there is a reference to the CCPA's opinion in (Footnote #10 cont.,) Application of Clinton, et al., 527 F.2d 1226, which invalidated claims virtually identical to those of the '007 patent on the basis of the Flosdorf '681 patent. Thus, the Board of Appeals invalidated claims virtually identical to those of the '007 patent on the basis of Irwin '447 and Ganiaris '522, and the CCPA invalidated such claims on the basis of Flosdorf '681.

solids would be occluded and incapable of being washed off the surface for further use. (ii) With respect to concentration, the '007 patent states what feed (10%-30%) and final concentrate (30%-50%) are required.

Flosdorf '681 gives no indication of the initial concentration. (iii) The '007 patent involves separation of ice crystals by centrifugation, freezing of the concentrated extract to a solid mass and freeze drying it to 1-5% moisture at zero degrees to -45°C. None of these steps and conditions are disclosed by Flosdorf '681.

These differences do not render the '007 patent non-obvious.

Flosdorf '681 repeatedly states that its teachings apply to coffee extract (col. 1, line 3; col. 2, line 7; col. 8, line 4). Flosdorf teaches a "preconcentration" step prior to freeze

drying, carried out "by subjecting the material to partial freezing with formation of a mixture of ice and concentrate and separating the concentrate from the ice, as by centrifuging" (col. 2, lines 17-20), which is the process recited in steps (b) and (c) of '007 claim 1. Flosdorf further teaches that the concentrated coffee extract should optimally have a solids content of "about 50%" (col. 8, lines 9-13), which anticipates Muller's claimed range of "about 30 to about 50 percent".

Flosdorf then subjects the concentrated extract to relatively complete dehydration by freezing it to a solid mass and freeze drying. The extract temperature is maintained at "well below 0°C., usually below -10°C., for example, at --20° to -30°C." (col. 2, lines 30-41), which anticipates Muller's

range.

Thus, the Flosdorf reference describes the steps of the process set forth in '007 claim 1, in exactly the same interrelationship as claimed, for exactly the same purpose. Muller has acknowledged that the individual features of his claims were known, and that he did not invent the idea of combining freeze concentration with freeze drying.

Ganiaris' affidavit does not raise any genuine issue of material fact and acknowledges that Flosdorf '681 discloses freeze concentration of coffee extract. It is a fundamental principle of patent law that features not recited in a claim cannot be relied upon to establish patentability. See Paeco, Inc. v. Applied Moldings, Inc., 562 F.2d 870, 874 (3d Cir. 1977); Smith v. Acme General Corp., 614 F.2d 1086, 1088 n.2 (6th Cir. 1980). Paragraphs 33 and 34 of the

affidavit with regard to "unoccluded ice crystals" and the asserted failure of Flosdorf '681 to teach the formation of unoccluded discrete ice crystals is, accordingly, irrelevant to the claim, as the Muller claims do not mention "unoccluded discrete ice crystals". Moreover, Mr. Ganiaris overlooks that the '007 patent itself expressly acknowledges that formation of "pure ice crystals" in freeze concentration of coffee extract is known in the prior art (col. 1, lines 33-41).

Ganiaris erroneously postulates that Flosdorf merely solidifies the water and does not disclose "separation of ice crystals by centrifugation" (paragraph 36). Ganiaris is simply wrong; Flosdorf expressly discloses forming "a mixture of ice and concentrate and separating the concentrate from the ice, as by centrifuging" (col. 2, lines 18-22).

That is what Muller also described.

Disclosure which is absent from the Muller specification and claims cannot be created via Mr. Ganiaris' assertions. For example, in paragraph 34 he states that the '007 patent involves "the formation of unoccluded discrete ice crystals". That is not a requirement of the Muller patent; to the contrary, it expressly states that "any method of removing the water from the coffee extract by crystallization as ice is applicable to the process of this invention" ('007 col. 3, lines 9-12).

Ganiaris' paragraph 35 averment regarding "initial concentration" of the starting material is contradicted by paragraph 16 of his affidavit, where he states: "Commercial coffee extract usually contains from 10% to about 30% of soluble coffee solids". Thus, those in the coffee industry would understand

Flosdorf's "coffee extract" to mean coffee extract within the initial concentration range broadly stated in Muller's claim. Ganiaris' further assertion that Flosdorf does not disclose that coffee extract can be freeze concentrated to 50% solids is contradicted by the text of the reference, which gives that figure as optimum for coffee and describes preconcentration of the extract by freeze concentration.

With respect to the 1-5% moisture range, the Court of Customs and Patent Appeals held in Clinton that one of ordinary skill in the art practicing the Flosdorf '681 process with coffee would naturally be lead by economic considerations to a suitable moisture content consistent with preserving its properties (527 F.2d 1229). As the Court observed, anyone practicing this old

process would be motivated to use the highest acceptable moisture content and would not waste money drying the coffee further.

Moreover, the 1963 Sivetz text, Coffee Processing Technology, Vol. Two (Tab R-3) (which was not before the CCPA), shows that Muller's 1-5% moisture range was disclosed in the prior art. It is clear from the text that this observation would be equally applicable whether the instant coffee powder had been freeze dried or dried by other means. In the face of this art, there could be no genuine issue of material fact with regard to the 1 to 5% moisture content. Even Mr. Muller testified that the claimed final moisture content was part of the prior art (Muller Dep., Tab R-4, p. 1201, lines 2-12).

Thus, there is no issue of fact with regard to Muller '007 claim 1; it recites

the old Flosdorf '681 process applied to conventional extract as suggested by the reference and terminated when the resulting product reaches the conventional final moisture content known in the prior art.

There is likewise no factual issue with regard to the other '007 claims. As to claim 2, Ganiaris' own patent (Tab O) teaches washing of ice in the centrifuge and recycling of the wash fluid back to the crystallizer, as was noted in the Muller II decision.

Claim 3 recites the old Flosdorf process with recycling of a fluid which contains residual coffee solids to the brewing step. This old expedient is taught by Basset British patent 529,202 (Tab R), and such expedient would be naturally applicable for the exact same purpose as it is used by Basset -- to conserve the coffee solids. Ganiaris'

paragraph 43 averment that Basset's disclosure "could" also be applicable to more dilute extracts does not detract from the force of the reference.

With respect to claim 4, the '007 patent itself (col. 1, ls. 42-47) states that spray drying is an old expedient for treating aqueous solutions of coffee solids. Thus, from the undisputed facts of record, claim 4 recites nothing more than the Flosdorf '681 process with the old washing step and the old expedient of spray drying to recover solids from the wash solution.

The Bedford '633 patent (Tab E) also teaches ice washing in the centrifuge, and this is not disputed in Ganiaris' affidavit. Ganiaris, rather, attempts to distinguish this reference on the basis that Bedford washes with liquor (i.e., unconcentrated feedstock) while "the '007 process uses fresh water for washing"

(paragraph 47). This purported distinction raises no genuine issue, because the '007 claims do not recite the use of water for washing and do not exclude the use of dilute extract or feedstock for this purpose. Indeed, the '007 specification (col. 3, lines 15-17) recites the use of either water or dilute extract for ice washing.

The extraordinary number of earlier patents in the prior art, the large number of texts and articles concerning the subject matter of these patents, and the range of commercial activity in the field disclosed by the undisputed record demonstrate "an intense interest and sophisticated level of skill in the art" at the time of the alleged '007 invention. Northern Engineering and Plastics corp. v. Roger Eddy, supra, slip op. at 7.

Thus, it is apparent upon a review of

all of the prior art references relied upon by Nestle, without the necessity of expert assistance, that the combination of elements involved in claims 1 through 4 of the '007 patent were obvious. They did not involve the exercise of invention. These claims were anticipated in the prior art and were obvious to a person skilled in the art at the time.

Further, the product-by-process claim 5 of the '007 patent is invalid, as it is merely the product of an old and known process.[11]

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11. Nestle advanced additional grounds for invalidating the '007 product-by-process claims even if the process were new. First, Nestle argues that the product cannot be patented because there is no showing how the (Quote #11 cont.,) product differs from freeze dried soluble coffee of the prior art, Application of Brown, 459 F.2d 531 (CCPA 1972). I have not ruled and do not rule upon this contention. Nestle urges that claim 5 is invalid because Struthers failed to comply with Patent Office regulations

(Footnote #11 cont.,)
when it was added to the application a contention previously rejected by Judge Meanor. Finally, Nestle asserts that Struthers' acquiescence in the examiner's rejection of the product-by-process claim in Muller II constituted a cancellation, surrender and abandonment of the claim, citing in support Schriber-Schroth Co. v. Cleveland Trust Co., 311 U.S. 211 (1940). While Struthers' acquiescence in the Muller II prosecution may be suggestive of Struthers' real opinion of the validity of its product-by-process claim, I do not believe Schriber-Schroth precludes Struthers from asserting the validity of claim 5 in the present proceeding. That case simply applies the rule of file wrapper estoppel which prevents a patentee from reclaiming that which he voluntarily surrendered by narrowing the language of the patent to avoid prior art cited by the Patent Office. Continental Oil Co. v. Cole, 634 F.2d 188 (5th Cir. 1981). Even though the claims in Muller I and Muller II were identical in all essential respects, different applications were involved, and I do not believe an action taken in one should be given file wrapper estoppel effect in the other.

5. The '522 Patent

The '522 apparatus patent claims means for performing the process claimed in the '007 patent. Struthers' supplemental answer to Nestle

Interrogatory 62 characterizes the claimed inventive advance as follows:

> The patentees' contribution to the state of the art and the advance made over the prior art lies in provision of a system of apparatus for dehydrating coffee or tea in which a freeze concentration device includes an integral agitator device and an ice separating centrifuge which is connected to a freeze drying device that removes moisture from the freeze concentrated product under vacuum by sublimation and heat. (Emphasis added.)

The prior art descriptions of combined freeze concen tration and freeze drying processes, including those described above (Flosdorf '681, Ganiaris '522 and Irwin '447) necessarily encompass equipment for carrying out those operations. This Struthers does not deny.

In his affidavit Ganiaris seeks to establish at least an issue of fact that the '522 apparatus does more than implement the process of the '007 patent.

In paragraph 50 of the affidavit he asserts that use of the prior art Vogt '864, Vogt '149 and Miller '607 agitated tubular freezers "for ice crystallization from a coffee extract was not known" (emphasis in original).

However, Muller '522 does not contain use claims; it contains apparatus claims. Consequently, the test is whether the claimed apparatus was known in the prior art, and that test is met here.

Moreover, Struthers' own Hedrick patent 3,277,667 (Tab R-5), which has an effective date of June 3, 1964 under 35 U.S.C. § 102(e), describes freeze concentration of coffee using an agitated tubular crystallizer. Thus, Ganiaris' statement that it was not known to use such equipment for such purpose is refuted by Struthers' own patent.

As noted in previous sections of this

opinion, freezing and freeze drying equipment were old in the art. Irwin and Flosdorf provide for conjoining freeze concentration and freeze drying equipment in processing coffee extract. Thus, the combination of apparatus elements claimed in the '522 patent is in the prior art.

Paragraph 52 of the Ganiaris affidavit shows that the "critical distinctions" relied upon by Struthers in connection with the '007 patent -- the concentration, final moisture content and temperature ranges -- are not recited in the '522 claims and, accordingly, cannot be relied upon to establish patentability over the art.

Just as the ice washing and solids recovery features of the '007 process are old, the apparatus for performing such steps in conjunction with the centrifuge, as recited in '522 claims 2 and 3, are also old. See Ganiaris '522 (Tab O) and

Bedford '633 (Tab E).

The other references noted earlier in this opinion also support holdings of invalidity with regard to the '007 and '522 claims. The Ganiaris statements designed to counter the undisputable content of the references rest largely on the proposition that art showing treatment of comestibles other than coffee is not pertinent (e.g., "orange juice concentration disclosures are not relevant prior art with respect to coffee"; paragraph 24). The assertion is refuted by Struthers' sworn preliminary statement in Interference 97,038 (Tab R-6), which advanced as a "description" of the '007 process Mr. Muller's letter of August 14, 1963 referring to the process as one to "concentrate food liquids such as orange juice by freezing".

Further refutation is found in STRUTHERS "FRECON" PROCESS - QUESTIONS

AND ANSWERS (Item 7), which lists both coffee extract and orange juice among a host of products suitable for freeze concentration. Moreover, Struthers' own patent disclosures, such as the Hedrick patent (Tab R-5), describe the applicability of the same concentration technology to both orange juice and coffee extract. Ganiaris' averments that data for juice may not be the same as for coffee (paragraph 23), or that experiments performed on juice may not give the optimum conditions for coffee (paragraph 24) evade the point that the same freeze concentration process is applicable to coffee, as the references show.

Thus, Ganiaris' affidavit does not raise a material invention to those elements.[12] Rengo Co. Ltd. v. Molins

12. At the time of the hearing on Nestle's motion directed to the Muller

(Footnote #12 cont.,)
patents I reserved decision on Nestle's contentions that: (i) the '522 patent is invalid for double patenting and (ii) the '522 patent is invalid over the '007 patent. In view of my conclusion that the '522 patent is invalid for obviousness under § 103, it is unnecessary to address these contentions.

Machine Company, Inc., Docket Nos. 80-2556 & 80-2557 (3d Cir. July 20, 1981).

F. Invalidity by reason of Prior Sale

35 U.S.C. § 102(b) provides that a person shall not be entitled to a patent if "the invention was . . . in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States . . . ". An offer for sale is invalidating under the statute. Philco Corp. v, Admiral Corp., 199 F. Supp. 797 (D. Del. 1961).

In order to sustain a finding of invalidity under the "on sale" ban of § 102(b) it must be shown (1) that "the alleged invalidating sale was of a device substantially identical to that claimed

under the terms of the patent", De Long Corp. v, Raymond International, Inc., supra, 622 F.2d at 1141; (2) that the invention alleged to have been offered for sale had been reduced to practice at the time of that sale, Austin v. Marco Dental Products, Inc., 560 F.2d 966 (9th Cir. 1977), cert. denied, 435 U.S. 918 (1978); Hobbs v. Atomic Energy Commission, 451 F.2d 849 (5th Cir. 1971), and (3) that the sale was for commercial exploitation of the invention rather than for experimental purposes, In re Yarn Processing Patent Validity Litigation, 498 F.2d 271 (5th Cir.), cert. denied sub nom. Sauquoit Fibers Co. v. Leesona Corp., 419 U.S. 1057 (1974). The party asserting the "on sale" defense has the burden of proving the defense by clear and convincing evidence. Minnesota Mining & Manufacturing Co. v. Kent Industries, Inc., 409 F.2d 99 (6th Cir.

1969).

It does not appear to be contested that the invention alleged to have been offered for sale had been reduced to practice at the time of the offers and sale or that the offers and sales relied upon by Nestle were for commercial exploitation rather than for experimental purposes. Struthers contends, however, that at the very least there is a factual dispute as to whether the pertinent offers or sales were made prior to the critical date, January 28, 1965, and as to whether what was offered or sold constituted the Muller '007 and '522 inventions.

The offers for sale and sales upon which Nestle relies are described in an earlier section of this opinion. In addition, Nestle relies upon Struthers' supplemental answer to Nestle Interrogatory No. 50:

> 50. Respondents believe that General Foods Corporation has infringed United States Letters Patent Nos. . . . 3,404,007 . . . 3,495,522 . . . . The basis of such belief lies in the fact that Struthers Scientific and International Corporation in 1964 and 1965 sold freeze concentration equipment and systems to General Foods for use in freeze concentrating coffee extract and General Foods did in fact freeze concentrate coffee extract with said equipment. . . . .

Nestle contends that the interrogatory answer is sufficient to show identity between what was sold and the claims at bar, "for the rule is well established that 'that which infringes, if later, would anticipate if earlier'". Knapp v. Morss, 150 U.S. 221, 228 (1893).

Struthers contends that the interrogatory answer states that only freeze concentration equipment and systems were sold to General Foods, which is only one of the two steps in the Muller inventions, the other being freeze drying. In Struthers words (Brief, p.

96), the answer "simply indicates (1) that Struthers sold equipment which, if employed in the manner disclosed by the Muller patents (e.g., the particular combination of steps there set forth was followed and the precise temperature, pressure and solids content ranges were adhered to) could be used to copy the Muller inventions, and (2) that Struthers believed that General Foods did in fact use the equipment in the manner taught by the patents".

There is sufficient ambiguity in the interrogatory answer to preclude relying upon it for summary judgment, De Long Corp. v. Raymond Intern., Inc., supra, 622 F.2d at 1141.

Further, paragraphs 59 and 60 of the Ganiaris affidavit must be accepted as true, namely, that the only sale by Struthers to General Foods prior to January 28, 1965 was pursuant to an

agreement dated August 12, 1964, and that that agreement did not provide for any freeze drying apparatus, process technology or know-how. Accepting that statement as true, however, does not end the matter. That affidavit does not deal with what was offered (as distinguished from sold) to General Foods and what was offered and sold to entities other than General Foods. Similarly, it does not deal with Struthers' expectation that its FreCon process for freeze concentration would be used by purchasers of the process in conjunction with a freeze drying step.

The pre-January 28, 1965 offers for sale and sales detailed above in this opinion are not denied by Struthers. Nor does Struthers disavow the documents which show that it contemplated that the freeze concentration processes and equipment which were the subject of those

offers for sale and sales were to be used in conjunction with a freeze drying step.

The November 27, 1964 Struthers "FreCon" Process Questions and Answers described "a freeze concentration plant as the first step followed by freeze drying" (Item 7). Struthers knew that General Foods intended to use the Struthers freeze concentration equipment in the manufacture of freeze dried MAXIM soluble coffee. Ganiaris' own memorandum of December 1, 1964 to Muller (Item 15) makes this abundantly clear:

> The writer obtained the following information during his last visit to Maxwell House at Hoboken, New Jersey:
>
> * * *
>
> 2. New Processes: The SSI [Struthers Scientific International] freeze concentration unit is connected to two new processes: (1) Freeze-drying; (2) Low Temperature Spray-Drying. There is not any indication that the 'FreCon' product will be introduced into their conventional spray-dryers.
>
> The freeze-drying plant is under

construction and will be located in the same building with the 'FreCon' unit.

* * *

4. Start-up: The official date for the start-up of the 'FreCon' unit is January 4, 1965. However it appears that the start up will be at the end of January in order to coincide with the start-up of the freeze drying operation.

Struthers does not and cannot deny that prior to January 28, 1965 it offered for sale and sold its FreCon freeze concentration process and equipment for use in conjunction with a freeze drying process and equipment. This combination is the essence of the alleged Muller '007 and '522 inventions. As discussed earlier in this opinion, the particular concentrations, temperatures and pressures specified in the patents were already well known or obvious. That someone else might supply the freezing and freeze drying hardware for use in the conjoined processes does not detract from

the combined processes, the combined apparatus having been placed in the prior art. Timely Products Corp. v. Arron, 523 F.2d 288, 302 (2d Cir. 1975):

> The complete invention claimed must have been embodied in or obvious in view of the thing offered for sale. [citations omitted] Complete readability of the claim on the thing offered is not required because whatever is published (or on sale) more than one year prior to the filing of a patent application becomes part of the prior art over which the claim must be patentable. [citations omitted].

The material facts are not in dispute; nor may contradictory inferences be drawn from these facts. They establish that the inventions of the '007 and '522 patents were in public use or on sale in the United States more than one yeer prior to January 28, 1966. Nestle is entitled to summary judgment of invalidity on this ground under 35 U.S.C. § 102(b).

G. Conclusion

For the reasons set forth above, Nestles's motion for summary judgment of invalidity of the Muller '007 and '522 patents will be granted on the grounds of obviousness over the prior art, 35 U.S.C. § 103, and prior offer of sale and sale, 35 U.S.C. § 102(b).

III. The Ganiaris '295 and '034 Patents

Nestle's Group II motion for summary judgment of invalidity and/or unenforceability was directed to Ganiaris patents 3,531,295 (the '295 patent) and 3,620,034 (the '034 patent). Nestle urged the following grounds for the relief it sought:

1. The '034 patent is invalid because the application upon which it issued became abandoned by operation of law.[13]

13. Nestle urged that Struthers' failure to make a written response to an official

(Footnote #13 cont.,)
action of the Patent Office mailed to it on January 8, 1971 and relying instead on a telephone conference with the examiner constituted a violation of applicable Patent Office rules and an abandonment of the patent as a matter of law under 35 U.S.C. § 133. The statute provides that failure to prosecute an application within the prescribed time shall constitute an abandonment unless it be shown to the satisfaction of the Commissioner that the delay was unavoidable. Struthers did respond within time, although not in the manner
(Footnote #13 cont.,)
prescribed by the applicable regulations. 37 C.F.R. §§ 1.111(b), 1.133(b). In my oral opinion on June 9, 1981 I denied the motion on this ground for the reason that the issuance of the patent by the Patent Office constituted the Commissioner's acceptance of the procedures followed and precluded a conclusion that the patent had been abandoned as a matter of law, Cf., BEC Pressure Controls Corp. v. Dwyer Instruments, Inc., 380 F. Supp. 1397 (N.D. Ind. 1974) (Commissioner of Patents did not have discretion to permit revival of a patent application deemed abandoned under the applicable statute for late payments of the issue fee).

2. The '295 patent is invalid because the application upon which it issued became abandoned by operation of

law.

3. The '295 patent is invalid under 35 U.S.C. § 112.

4. The '295 patent is invalid under U.S.C. § 102(f).[14]

5. The '295 patent is invalid over the prior art, including prior offer for sale, sale and use.[15]

6. The '295 patent is invalid under 35 U.S.C. § 102(d).

7. The '034 patent is invalid over the prior art, including prior offer for sale, sale and use.[16]

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14. Nestle relies upon a Struthers interrogatory answer to establish that Ganiaris' conception of the invention claimed in the '295 patent took place on May 19, 1965, a month after the subject matter of the invention was discussed with General Foods. This, Nestle contends, establishes that Ganiaris did not himself invent the patented subject matter and the patent is invalid under 35 U.S.C. § 102(f). Struthers asserted that its interrogatory answer was in error and submitted an affidavit of Ganiaris asserting that he conceived the invention prior to the conferences with General Foods. At the June 9, 1981 hearing I

(Footnote #14 cont.,)
ruled that Ganiaris' affidavit raised an issue of fact on this point and consequently I denied Nestle's motion based on § 102(f) grounds.
15. At the hearing held on June 9, 1981 I denied summary judgment on that aspect of Nestle's prior art contentions relying on prior offer for sale, sale and use of the '295 patent for the reason that there were factual issues as to whether the alleged invention claimed in that patent was a subject of the General Foods transaction. After a further review of the record I have concluded that denial of summary judgment on the ground of prior sale was correct but for a different reason than the one upon which I relied on June 9, 1981. I do not decide at this time whether there is a genuine issue as to whether Struthers sold the invention claimed in the '295 patent to General Foods. I do conclude that there is a genuine issue as to whether any such sale took place prior to the pertinent one-year period. Later in this opinion I hold that the '295 patent is entitled to a December 8, 1965 filing date and not an April 16, 1969 filing date, as contended by Nestle. This has a
(Quote #15 cont.,)
significant impact upon Nestle's § 102(b) theory and makes it impossible to decide that the sale of the '295 invention (if there were such a sale) indisputably took place more than one year prior to that date.

16. At the hearing held on June 9, 1981 I also denied summary judgment on that aspect of Nestle's prior art contentions relying on prior offer for sale, sale and use of the '034 patent for the reason

(Footnote #16 cont.,)
that there were factual issues as to whether the alleged invention claimed in that patent was a subject of the General Foods transaction. As in the case of the '295 patent prior sale contentions, a further review of the record suggests that while the conclusion was correct, the reason for it was not. I do not decide at this time whether there is a genuine issue as to whether Struthers sold the invention claimed in the '034 patent to General Foods. I do conclude that there is a genuine issue as to whether any such sale took place prior to the pertinent one-year period. In a subsequent section of this opinion I hold that the '034 patent is entitled to a December 8, 1965 filing date and not a July 11, 1967 filing date, as contended by Nestle. Using this date it is impossible to decide that the sale of the '034 invention indisputably took place more than one year prior to that date.

8. The '034 patent is invalid by reason of double patenting.

9. The '034 patent is invalid under 35 U.S.C. § 112.

10. The '295 and '034 patents are unenforceable by reason of Struthers' withholding of material facts from the Patent Office.[17]

At the June 9, 1981 hearing on the Group II motion I reserved decision in whole or in part on contentions 2, 3, 5, 6, 7, 8 and 9 above. This Part of the opinion disposes of the reserved issues.

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17. On June 9, 1981 I denied Nestle's motion based upon asserted withholding of material facts from the Patent Office for

(Footnote #17 cont.,)
the reason that there remain genuine issues of material fact. De Corp. v. Raymond Intern., Inc., supra. Digital Equipment Corp. v. Diamond, 653 F.2d 701 (1st Cir. 1981).

A. Description of the Patents

1. The Ganiaris '295 Patent

The process of freeze concentration of coffee extract (or other comestible extracts) was discussed above in connection with the Muller freeze concentration/freeze drying patents. When a part of the water is removed from the extract by freeze concentration, some of the viscous concentrate tends to adhere to the ice crystals after centrifuging and some becomes occluded in the ice (see discussion of the phenomenon in connection with the Muller patents). It is quite apparent that recovery of the adhering and occluded extract is economically desirable, and that is the objective of the '295 patent, which is entitled "Freeze Concentration of Coffee Extract".

The abstract of the disclosure reads, "A process of freeze concentrating coffee extract is described in which a mixture of ice and coffee is separated in a centrifuge. The ice is thereafter washed to include a finite amount of coffee and melted to recover entrained coffee solids therefrom."

Claim 1 of the '295 patent describes recovery of the adhering and occluded extract by washing and melting the ice. Claims 2 through 5 set forth variants of the procedure of washing and melting the ice and, in some cases, reusing the

resulting diluted extract at an earlier phase of the freeze concentration process.

The claims in their entirety read as follows:

What is claimed is:

1. A process for preparation ofconcentrates of coffee which comprises:

(a) extracting roast ground coffee with hot water to form an aqueous extract having 15-30% dissolved solids therein;

(b) partially freezing said extract to form a mixture of ice and more concentrated extract having at least 20% dissolved solids therein;

(c) separating said ice from said more concentrated extract by centrifuging under conditions whereby a portion of said more concentrated extract adheres to said ice;

(d) reducing the amount of said more concentrated extract adhering to said ice to a finite amount less than 5% by weight of said ice by washing and centrifuging;

(e) melting said ice to a solution containing dissolved extract which is less than 5% by weight of said melted ice; and

(f) recovering coffee solids from said melted ice.

2. A process according to claim 1 in which the solution from step (e)

is used in step (a) to form additional concentrated extract, thereby preventing loss of soluble coffee solids as a result of step (c).

3. A process for the preparation of concentrates of coffee which comprises:

(a) extracting roast ground coffee with hot water to form an aqueous extract having 15-30% dissolved solids therein;

(b) partially freezing said extra mixture of ice and a more concentrated extract having at least 20% dissolved so therein;

(c) separating said ice from said more concentrated extract by centrifuging under conditions whereby a portion of said more concentrated extract adheres to said ice;

(d) reducing the amount of said more concentrated extract adhering to said ice to a finite amount of dissolved extract solids, less than 5% by weight of said ice, by washing in a centrifuge with fresh water or dilute coffee extract and centrifuging;

(e) melting the ice and combining said ice melt and said adhering extract therein from step (d) with liquid coffee extract to form a combined extract; and

(f) recovering coffee solids from said combined extract.

4. The process of claim 1 wherein the amount of said more concentrated extract adhering to said ice crystals is reduced in step (d) by washing the ice crystals with water resulting in spent water and ice crystals, each having small amounts of said extract.

5. A method accorking to claim 1 in which coffee solids are recovered from the washings of the ice.

2. The Ganiaris '034 Patent

This refreshingly brief patent is entitled "Multi-Stage Freeze Concentration of Coffee". It is directed to the same problem as the problem to which the '295 patent was directed, namely, recovering the coffee solids which may adhere to or be occluded in the ice produced during the freeze concentration step.

The abstract of the disclosure reads: "In a staged freeze concentration process for concentrating coffee solution, ice crystals are removed from the system after the first stage from

less concentrated coffee solution. Ice crystals removed from the more concentrated coffee solution in the second stage are added to incoming feed. Coffee solution from which ice crystals are separated in the second stage is removed from the system as product."

The subject matter of this patent clearly is similar to the '295 patent. Claim 1 (and therefore each of the other claims, which are in dependent form) is restricted to starting with a liquid containing about 24% coffee solids. Just why this figure was selected is not disclosed in the specification. The features mentioned in the claims include melting ice by mixing it with feed solution, using melted ice as a wash liquid, and recycling washings to the feed.

The claims read as follows:

What is claimed is:

1. A process for the preparation of a concentrate of coffee from a liquid containing about 24% coffee solids which comprises (a) partially freezing aqueous coffee extract in at least two serially connected crystallizer passes to form a mixture of about 20-30% by weight of ice and a concentrated extract, (b) separating said ice by centrifugation from said mixture under conditions whereby a portion of said concentrated extract adheres to said ice, (c) reducing the amount of said concentrated extract adhering to said ice by centrifuging and by washing in the centrifuge with addition of wash water or melted ice (d) melting the ice to form a dilute solution which contains the coffee which had been adhering to the ice and (e) recovering coffee solids from said melted ice.

2. In the freeze concentration according to claim 1, the steps of:

(a) removing ice from the concentrated coffee solution and mixing with feed solution to melt therein; and

(b) removing the concentrated coffee solution from the system as a product.

3. The process according to claim 2 with the additional steps of:

(a) melting to some extent the ice removed from coffee solution to form a wash liquid;

(b) washing ice with the wash liquid; and

(c) recycling the wash liquid after washing ice into the feed.

4. The process according to claim 3 with the additional step of:

recycling at least some of the concentrated coffee solution into the feed.

5. A process as claimed in Claim 1 in which coffee solids are recovered from wash water after washing.

B. Prosecution of the Ganiaris Applications

Four Ganiaris applications for patent, all of which were owned and prosecuted by Struthers, are pertinent. The first application (Ganiaris I; Serial No. 321,020; Ex. 4) resulted in Patent 3,283,522 (the '522 patent), which is not here in suit, and was not asserted against General Foods. The second application (Ganiaris II; Serial No. 512,365; Ex. 5) became abandoned by

reason of Struthers' failure to pay the base issue fee after allowance of claims in that application. The third application (Ganiaris III; Serial No. 816,596; Ex. 6) resulted in patent 3,531,295 (the '295 patent) here in suit. The fourth application (Ganiaris IV; Serial No. 652,532; Ex, 7) resulted in patent 3,620,034 (the '034 patent) here in suit.

1. THE GANIARIS I APPLICATION

In November, 1963 Struthers filed the Ganiaris I application in the name of its employee, Neophytos Ganiaris, for a multi-stage freeze concentration process.

The application, as filed, contained, inter alia, product-by-process claims (e.g.: "2. A concentrated aqueous solution made by the process of claim 1."). The first official action, mailed

February 11, 1966, rejected the product-by-process claims as being improper, "since the product cannot be defined by the process of making it unless it cannot otherwise be defined" (Ex. 4, p. 33). In response to that rejection, Mr. Drucker cancelled the product-by-process claims (Ex. 4, p. 36).

After further prosecution the Ganiaris I application issued as a patent in November, 1966.

2. THE GANIARIS II APPLICATION

In December, 1965 Struthers filed the Ganiaris II application. The application, as filed, did not refer to or claim benefit of the filing date of any other application for patent, nor was it ever amended to contain any such reference or claim. (See, however, discussion in Part H(1) of Struthers'

attempt to amend Ganiaris II after it had become abandoned.) So, also, neither the declaration (Ex. 5, p, 14) nor the subsequently filed supplemental oath (Ex. 5, p. 44) referred to or claimed benefit of any prior application.

The Ganiaris II application claimed a freeze concentration process in which the separated ice is melted and used to prepare fresh extract (Ex. 5, p. 12). The examiner's first action, mailed July 1, 1966 (Ex. 5, p. 21), rejected several of the claims under 35 U.S.C. § 112 "as failing to particularly point out and distinctly claim what applicant regards as his discovery". The claims were also rejected over prior art. Several claims were rejected under § 102 as fully met by the 1940 Basset British Patent 529,202 (Tab O). Application claims 3 and 4, which added the features of washing the ice prior to melting it and returning the

washings to the crystallizer, were rejected as being obvious in view of Basset taken with Struthers' own Svanoe Canadian patent 699,247 (Tab P). As to the ice-washing feature, the examiner said, "it would be well within the expected purview of one having ordinary skill in this art to wash the ice crystals and return the wash water containing adhering extract, as recited in these claims, because such a feature is known to the freeze concentration art, as note Svanoe". In addition, the examiner required that an abstract be supplied pursuant to Rule 72(b) (37 C.F.R. § 1.72(b)).

A response filed by Mr. Drucker (Ex. 5, p. 26) cancelled certain claims and amended claim 1. The accompanying remarks asserted that the claims "are now limited to the extent of washing prior to separation and melting to ensure low

solids in ice". Amended claim 1, however, made no mention of washing the ice. It was also urged by Mr. Drucker to be "critical" that the ice be washed to reduced the concentration of solids "to below 5% by weight before melting"; but the portion of the specification he cited p. 5, lines 19-30; Ex. 5, p. 8 does not contain any statement of criticality; it only states it to be "preferred" that the melted ice contain up to 5% by weight of dissolved coffee solids.

Later a supplemental amendment was filed by Mr. Drucker's associate (Mr. Cantor) (Ex. 5, p. 29). It supplied an abstract and further amended claim 1 to add the step of reducing the amount of extract adhering to the ice crystals to an amount less than 5% by weight of the ice. The supplemental amendment also presented a dependent claim to washing the ice with water in order to reduce the

amount of adhering extract.

In an action mailed December 13, 1968, the examiner again rejected all the claims, and that rejection was made FINAL (Ex. 5, p. 32).

Thereupon an interview was had with the examiner. On the inside cover of the file wrapper (Ex. 5, p. 48) there is a handwritten note reflecting the interview with Examiner Maurice W. Greenstein. That reads:

12/19/68 MWG Mr. Drucker Mr. Cantor	Proposed claim more limited which is fully supported by Spec., pointing up necessity for centrifugation at solids level claimed for extract and also for washing + recycling.

Seemingly in contrast to the examiner's note of the interview, the ensuing further amendment filed January 23, 1969 (Ex. 5, p. 35) asserted in its remarks that newly added claims 13 and

14, described at the interview, "were indicated to be allowable". Various numerical limitations were added in new claims 13 and 14.

The Patent Office later ruled that the January 23, 1969 amendment filed in response to the final rejection did not comply with the requirements of 37 C.F.R. § 1.111, which, in part, provides:

> (c) In amending an application in response to a rejection, the applicant must clearly point out the patentable novelty which he thinks the claims present in view of the state of art disclosed by the references cited or the objections made. He must also show how the amendments avoid such references or objections.

The Patent Office ruling that the January 23, 1969 response was insufficient came more than a year later in the Ganiaris III application, after the Quality Control operation of the Patent Office had reviewed that amendment filed in Ganiaris II. The Patent Office held:

> It should be noted that applicant's response in his parent case [Ganiaris II, Serial No. 512,365] does not comply with the provisions of Rule 111 since there was no specific argument as to the inapplicability of the references applied in the rejection.
>
> (Ex. 6, p. 32.)

No further or supplemental response to the final rejection in Ganiaris II was filed. Instead, concurrently with the amendment discussed above there was filed a petition to make the application special and accelerate the grant of a patent (Ex. 5, p. 39). Prosecution on the merits was accordingly closed (Ex. 5, p. 41), and an examiner's amendment was made with the agreement of Mr. Cantor (Ex. 5, p. 42).

A notice of allowance was mailed March 20, 1969 (Ex. 5, p. 45), which required payment of the issue fee within three months, else the application would become abandoned. The issue fee was not

paid, and the application consequently became abandoned. See 37 C.F.R. § 1.316.

3. THE GANIARIS III APPLICATION (The '295 Patent)

On April 16, 1969, after the notice of allowance in Ganiaris II had been mailed, Struthers filed the Ganiaris III application (Serial No. 816,596; Ex. 6).

The application was said to be a "division of Ganiaris II (Ex. 6, pp. 4, 15). In the first official action, mailed September 23, 1969, the examiner took exception to styling of the case as a "division" of Ganiaris II and demanded amendment of the specification and submission of a new oath (Ex. 8, p. 18).

The Ganiaris III specification is essentially the same as that of Ganiaris II. Original claims 3 and 4 of Ganiaris III correspond to allowed claims 13 and 14 of Ganiaris II, but Ganiaris III

contained three additional process claims, an apparatus claim and a product-by-process claim (Ex. 6, pp. 12-14). The examiner required restriction between the process claims (including the product-by-process claim) and the apparatus claim (see 35 U.S.C. § 121 and 37:C.F.R. § 1.142). Pursuant to Mr. Drucker's election of the process subject matter, the examiner acted on the process claims.

The process claims were rejected under § 112 "as failing to particularly point out and distinctly claim what applicant regards as his discovery". They were additionally rejected as unpatentable over the 1963 Sivetz publication (Tab R) in view of the 1940 Basset British patent (Tab O) and the 1965 McKay patent (Tab J) or the 1964 Svanoe Canadian patent (Tab P). Product-by-process claim 8 was also

rejected as unpatentable over the freeze concentrated coffee extracts of the prior art. Mr. Drucker thereupon had an interview with the examiner,

The response entered December 19, 1969 (Ex. 6, p. 25), following the interview, cancelled the product-by-process claim and certain other claims, and presented new claims 9-11. The accompanying remarks thanked the examiner for the interview "at which the proposed form of the claims was discussed". A complete written statement of the reasons presented at the interview as warranting favorable action was not filed (see 37 C.F.R. § 1.133(b). The remarks asserted that certain claims "were neither taught nor suggested by the art of record, particularly in view of step (d)" but did not appear to meet the requirements of 37 C.F.R. § 1.111(b)), which provides, in part:

> A general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section.

Referring to the interview, the remarks asserted that "Original claims 3 and 4 were agreed still to be allowable for reasons of record in the parent case [Ganiaris II]." No reasons were advanced for withdrawing the rejection of those claims over the different prior art references cited in Ganiaris III; and the statement also appears to be inaccurate, as claim 3 was not allowed by the examiner (see Ex. 6, p. 28).

Nevertheless, several claims were allowed following a further telephone discussion between the examiner and Mr. Drucker (Ex. 6, p. 28). A notice of allowance was mailed March 27, 1970 (Ex. 6, p. 30) and the issue fee was paid April 2, 1970.

The Ganiaris III application was then considered by the Quality Control operation of the Patent Office. An official letter mailed April 16, 1970 (Ex. 6, p. 31) stated that the record of the parent case (Ganiaris II) and this application (Ganiaris III) had been carefully considered, and proposed to withdraw the Ganiaris III application from issue for the purpose of reinstating the rejection of the claims as unpatentable over prior art as set forth in the last Office Action, dated September 23, 1969.

The official letter, written by a different examiner (Mr. Golian) and approved by the Group Director (Ex. 6, p. 34), again objected to designation of the application as a "division", and pointed out that applicant had presented no reasons in support of that designation. The official letter also held:

It is not considered that the prosecution of this application complies with the statute, rules, and Patent Office practice and procedure.

Applicant in his response to the Office Action of September 23, 1969 failed to comply with the provisions of Rule 111 and 119. See 714.02 to 714.04 M.P.E.P.

Applicant in the amendment filed December 19, 1969 did not point out the specific distinctions believed to render the new claims patentable over the applied references.

Further, applicant's argument that original claims 3 and 4 were allowable for the reasons of record in the parent case [Ganiaris II] is not such a response as the nature of the case required. Each application should be complete in itself and not depend on another application for a complete understanding of applicant's position. It should be noted that applicant's response in his parent case does not comply with the provisions of Rule 111 since there was no specific argument as to the inapplicability of the references applied in the rejection. Moreover, the argument in applicant's parent case has no pertinency since the applied art relied upon in the rejection in this case is different than that applied in the parent case. In addition, claims 9, 4, 6 and 10 do not depend on claims 3 and 4 as argued.

> It is pointed out that there is no specific argument directed to the references relied upon in the rejection. The argument that the claimed process 'is neither taught nor suggested by the art of record particularly in view of step (d)' is not understood.
>
> (Ex. 6, pp. 32-33.)

The official letter went on to point out the pertinency of the cited art, and said applicant had thirty days within which to respond by way of argument of amendment.

Mr. Drucker responded (Ex. 6, p. 35). He acquiesced in the objection to designation of the application as a division, and amended accordingly. Three pages of discussion of the cited art followed, and Mr. Drucker concluded:

> It is believed that this case has gone at least once through Quality Control and the present state of the prosecution is unusual.
>
> (Ex. 6, p. 38.)

The amendment was entered and the '295 patent issued on September 29, 1970.

4. THE GANIARIS IV APPLICATION (The '034 Patent)

On July 11, 1967, Mr. Drucker filed a short application (four pages plus claims) in the name of Ganiaris (Serial No. 652,532; Ganiaris IV; Ex. 7). Neither the application as filed nor its oath referred to any prior United States application; but the oath did refer to application 31831/66 filed in Great Britain on July 15, 1966 (a copy of the British provisional application appears at pp. 20-26 of Ex. 7). The British application, in turn, does not refer to any prior application.

In the first official action, mailed December 8, 1969 (Ex. 7, p. 12) all claims were rejected over the 1966 Ganiaris patent 3,283,522 (Tab K) (which issued on the Ganiaris I application, filed November 4, 1963) or the 1958 Findlay patent 2,851,368 (Tab D). A

response was received by the Patent Office on May 7, 1970.

The response cancelled all the claims and substituted new claims 7-12. Mr. Drucker argued that Struthers' Ganiaris '522 patent was not an effective reference because its November 8, 1966 issue date was antedated by the July 15, 1966 filing date of British application 31831/66. The British application is referred to in the declaration of the Ganiaris IV application, and benefit of its filing date (priority) is claimed under 35 U.S.C. § 119.

A second official action, mailed July 15, 1970 (Ex. 7, p. 27), rejected the new claims under § 112 as unduly broad, and also rejected claim 8 as drawn to new matter (35 U.S.C. § 132). All of the new claims were additionally rejected for double patenting (35 U.S.C. § 101) in view of the subject matter claimed in the

Ganiaris '522 patent. The rejection was made FINAL.

Mr. Drucker's response, filed October 13, 1970 (Ex. 7, p. 29) cancelled claim 8 and amended the application to assert that it was a continuation-in-part of the abandoned Ganiaris II application (Serial No. 512,365 filed December 8, 1965). No new oath or declaration containing the averments required in continuation-in-part applications was submitted.[18] Neither did Mr. Druckerpoint out in what respect, if any, the abandoned Ganiaris II application contained a written descrption of the

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18. As stated in the PTO Manual of Patent Examining Procedure (M.P.E.P.), §201.08, "a continuation-in-part is an application filed during the lifetime of an earlier application by the same applicant, repeating some substantial portion or all of the earlier application and adding matter not disclosed in the said earlier case". The special form of oath required in such applications is shown at 37 C.F.R. § 3.18.

subject matter claimed in the present (Ganiaris IV) application.

A terminal disclaimer executed by Mr. Drucker in his capacity as vice-president of Struthers Scientific was also submitted (Ex, 7, p. 30). It disclaimed that portion of the term of any patent issuing on Ganiaris IV which would extend beyond expiration of the '522 patent.

The remarks portion of the amendment comprised two sentences. The first sentence referred to the terminal disclaimer. The second sentence was a general allegation of patentability. The remarks did not point out the patentable novelty the claims were believed to present in view of the state of the art disclosed by the cited references. Neither was it shown how the amendment avoided the rejection. Compare 37 C.F.R. § 1.111.

In a further action, mailed January 8, 1971 (Ex. 7. p. 33), the final rejection was withdrawn and claims 7 and 12 were rejected as drawn to obvious matter in view of the 1965 Lund patent 3,205,078 (Tab I). Claims 7 and 12 were further rejected for double patenting over the Ganiaris '295 patent, which had issued on the Ganiaris III application.

No written response was made to the January 8, 1971 rejection of claims. Compare 37 C.F.R. § 1.111(b).

Accordingly, one cannot tell how the examiner was persuaded to withdraw the art rejection over Lund, and the separate double patenting rejection over the '295 patent. The examiner's amendment dated April 5, 1971 (Ex. 7, p. 37) acknowledges a telephone interview with Mr. Drucker and makes certain changes in claim 7 which are stated to have been "approved" during that interview. The interview resulted in allowance of claims 7-12, but there is no written statement of the reasons presented at the interview as warranting favorable action. Compare 37 C.F.R. § 1.133(b). There is similarly no written record of how the amendments to the claims are supposed to have avoided the references applied in the art rejection or the separate double patenting rejection (37 C.F.R. § 1.111).

A notice of allowance was mailed April 23, 1971 (Ex. 7, p. 45), and the

base issue fee was paid on May 10, 1971 (Ex. 7, p. 46). Also, on May 10, 1971 there was filed a supplemental oath (Ex. 7, p. 43) in which Ganiaris averred that the subject matter of the allowed claims was invented before he filed his "original application Serial No. 512,365" (Ganiaris II).

Over a month after prosecution had been concluded and the base issue fee had been paid, Mr. Drucker filed, on June 16, 1971, a further paper (Ex. 7, p. 40) amending the specification to assert not only that Ganiaris IV is a continuation-in-part of Ganiaris II, but also to assert that Ganiaris II is a continuation-in-part of Ganiaris I (Serial No. 321,020, now the '522 patent). There was concurrently submitted a new declaration claiming priority of Ganiaris I under 35 U.S.C. § 120 (Ex. 7, p. 41). A month earlier

Ganiaris had sworn, in the Ganiaris IV supplemental oath, that Ganiaris II was his " original application" in respect of the subject matter claimed in the Ganiaris IV application (Ex. 7, p. 43).

As the June 16, 1971 papers purporting to claim benefit of the Ganiaris I application filing date were filed after prosecution of Ganiaris IV had been concluded, there was no outstanding issue to which they were pertinent and no occasion for the examiner to determine whether the Ganiaris IV application was, in fact and in law, entitled to benefit of the Ganiaris I filing date. They were entered as pertaining to formal matters.[19]

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19. The PTO markings on the June 16, 1971 amendment (Ex. 7, p. 40) reflect that it was entered pursuant to Order No. 3311. As set forth in IB Horwitz, Patent Office Rules and Practice 1503 (1980), Order No. 3311 of May 22, 1935 provides,

(Footnote #19 cont.,)
"Hereafter amendments submitted after the notice of allowance of an application which embody merely the correction of formal matters in the specification, or formal changes in a claim without changing the scope thereof, or the cancellation of claims from the application, shall be acted upon by the Primary Examiner and not forwarded to the Commissioner (as represented by the Supervisory Examiner) for approval."

C. Prior Sale-- Nestle's and Struthers' Contentions

1. Facts Relied upon by Nestle:

Nestle relies upon the same facts to support invalidity of the '295 and '034 patents on prior offer to sell, sale or use grounds as those it relied upon in connection with the Muller patents. In particular, Nestle refers to the following:

The August 12, 1964 contract between Struthers and General Foods confirms that the process and equipment sold to General Foods included a "Melter Tank" (Item 8, Ex. A, Part I). Nestle contends that

there was nothing but ice to melt. Struthers' answer to Interrogatory 119 in the General Foods litigation asserts that washing ice with melted ice from the melt tank was disclosed orally to General Foods engineers in the period August 18, 1964 to July 29, 1965, and was shown on a drawing furnished to General Foods by Struthers on August 6, 1965, a date prior to the contract of sale (¶ 26). Nestle argues that there could be no reason for such disclosure unless that subject matter were on sale, or had been sold, and that using melted ice for washing is one means of recovering solids from the melted ice.

Like comments apply to ¶ 86 of the answer, which deals with using the melted ice in the extraction step or in the soluble coffee-making process to recover solids therefrom. That, too, was disclosed beginning in August, 1964,

showing it to have been on sale or sold.

And in ¶ 89 it is admitted that use of melted ice was disclosed in "operating instructions" given to General Foods, further confirming that the matter was on sale and sold. ¶ 87 confirms that washing with dilute coffee solution was physically incorporated into the first Hoboken plant in 1964. ¶¶ 90 and 92 also show that using the melted ice was disclosed in 1964.

Item 19 is General Foods' September, 1964 memorandum describing the operation of Struthers' mobile (flat car) FreCon plant at Hoboken the previous August. Reference to the flow diagram appended to that memorandum shows that ice was delivered to a melt tank (right side of diagram) and that melted ice containing about 1% solids was recycled at the rate of 550 pounds per hour to the first stage centrifuge. At the page numbered 50352

the memorandum recommends certain improvements for incorporation in the unit Maxwell House was buying. The sixth of these is sending the melt stream to rework rather than recycle with the system.

2. Facts Relied upon by Struthers:

In the affidavit which Struthers filed in response to the claim of prior sale or offer to sell, Ganiaris admitted that Struthers "disclosed to General Foods that recovery of coffee solids, and recycling of melted ice to extractors, evaporators, spray drvers is possible". However, he further stated:

> 3. The subject matter of the '295 and '034 patents were not sold to General Foods Corporation ("General Foods") more than one year before the filing of the applications for '295 and '034 or before my invention thereof. The sales contract between Struthers and General Foods dated August 12, 1964 does not mention that the loss of coffee solids is related to coffee solids in the ice or that

the ice should be recycled to recover solids or that any attempt should be made to recover the coffee solids from the melted ice. Indeed, the equipment and system as supplied to General Foods in 1964 had no provisions for the recovery of coffee solids from melted ice. Melted ice was considered waste.
4. The answers to General Foods' interrogatories (noted in Nestle Br., p. 45-48) in the Delaware litigation do not indicate that recovery of coffee solids from the melted ice was incorporated in the FreCon system sold to General Foods in 1964. Struthers only disclosed to General foods that recovery of coffee solids, and recycling of melted ice to extractors, evaporators, spray-dryers, is possible.

D. Abandonment of the '295 Patent

On April 16, 1970, subsequent to the allowance of the Ganiaris III application upon which the '295 patent issued, an official letter (Ex. 6, p. 31) was written, stating:

> It is not considered that the prosecution of this application complies with the statute, rules and Patent Office practice and procedure.

> Applicant in his response to the Office Action of September 23, 1969 failed to comply with the provisions of Rule 111 and 119. See 714.02 to 714.04 M.P.E.P.

The official letter goes on to point out the respects in which the response was deficient.

35 U.S.C. § 133 provides that upon failure of applicant to prosecute the application within six months after any action therein, or in such shorter time (not less than thirty days) as the Commissioner may fix, "the application shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner that such delay was unavoidable". Regulations promulgated by the Commissioner established what is necessary to constitute adequate prosecution of the application by the applicant. 37 C.F.R. § 1.135 provides:

> §135. Abandonment for failure to response within time limit.
> (a) If an applicant fails to prosecute his application within six months after the date when the last official notice of any action by the Office was mailed to him, or within such shorter time as may be fixed (§1.136), the application will become abandoned.
>
> (b) Prosecution of an application to save it from abandonment must include such complete and proper action as the condition of the case may require. The admission of an amendment not responsive to the last official action, or refusal to admit the same, and any proceedings relative thereto, shall not operate to save the application from abandonment.
>
> (Emphasis supplied.)

The required content of a "complete and proper" response to an official action is governed by 37 C.F.R. §§1.111 and 119, to which the official letter referred. The official letter asserted that the applicant had not complied with the statute and the rules in responding to the official action of September 23, 1969. From this Nestle urges that the

application accordingly became abandoned by operation of law. It argues that even though Struthers responded to the requirements of the Quality Control Board by filing a new submission which was designed to remedy the defects specified by the Quality Control Board, this submission was long after the time specified by the applicable statute and regulations and could not have the effect of reviving an already abandoned application.

Struthers' initial response to the abandonment argument, namely, that abandonment is a question of fact as to which the intention of the inventor is controlling, is not well taken. We are not dealing with a situation as to which intent has any bearing whatsoever. The sole issue is one of law, whether given the undisputed facts the statute and regulations require that the application

for the '295 patent be deemed abandoned as a matter of law.

Struthers further argues that there was no finding that Struthers' initial response to the Official Action of September 23, 1969 was inadequate. This is a rather difficult position to sustain in view of the devastating criticisms which the Quality Control Board leveled at the response and given the major changes in the application which Struthers effected by its response to the action of the Board.

Nestle relies upon Lorenz v. Finkl, 333 F.2d 885 (CCPA 1964), to support its argument that in light of the mandatory language of 35 U.S.C. § 133 and the applicable regulations, the failure of the Patent Office to treat the Ganiaris III application as abandoned and the issuance of the '295 patent notwithstanding Struthers' failure to

file an amendment which was a complete and proper action as the condition of the case required was ultra vires and void. In that case the examiner finally rejected the Lorenz application on prior art on June 19, 1959. The six-month period for a response expired on December 21, 1959. On December 6, 1959 Lorenz filed an amendment which was not adequate to meet the final rejection and he failed to file a notice of appeal by December 21, 1959. Pursuant to a suggestion of the examiner, in June, 1960 Lorenz filed an amendment requesting that a suggested claim be entered for purposes of interference. This was done and an interference with Finkl was declared. Finkl urged that the "irregularity or informality in the declaration of the interference is based on the fact that the Lorenz application was abandoned long prior to the institution of this

interference". The CCPA majority agreed with Finkl and ruled that "According to [the Patent Act of 1952], failure of an applicant to 'prosecute' an application within six months after any action therein, of which notice has been given or mailed to the applicant, results in the application becoming abandoned", at 889.

Notwithstanding the majority opinion in Finkl, I do not think a reviewing court should hold a patent invalid when an applicant files, within time, an amendment which is at least colorably responsive to the examiner's action and when the Patent Office itself decides to treat the amendment as sufficient so as not to require a finding of abandonment. To rule otherwise would require the reviewing court to involve itself in the minutiae of Patent Office proceedings and to second-guess the Patent Office on

procedural issues at every turn.

Some flexibility is contemplated by Patent Office procedures. The Manual of Patent Examining Procedure expressly confirms that the Patent Office may provide an applicant an additional period (up to thirty days) to submit a more complete response to an examiner's action. § 714.03 of the M.P.E.P., entitled "Amendments Not Fully Responsive, Action to be Taken", provides, in relevant part:

> Where a bona fide response to an examiner's action is filed before the expiration of a permissible period, but through an apparent oversight or inadvertence some point necessary to a complete response has been omitted, such as an amendment or argument as to one or two of several claims involved or signature to the amendment, the examiner, as soon as he notes the omission, should require the applicant to complete his response within a specified time limit (usually one month) if the period has already expired or insufficient time is left to take action before the expiration of the

> period. If this is done the application should not be held abandoned even though the prescribed period has expired.

Judge Rich's dissenting opinion in Lorenz v. Finkl suggesting that the Patent Office has considerable discretion in applying its procedural rules is persuasive.

Struthers' inadequate response to the September 23, 1969 Official Action is not without over-all significance in this case. It represents another instance of Struthers' casual approach to obtaining patents in this art and its agility in juggling and skirting Patent Office rules in its quest. However, viewed in isolation, I do not believe the inadequacy of the response is a basis for granting Nestle's motion for summary judgment on the ground of abandonment of the Ganiaris III application.

E. Invalidity of the '295 Patent under § 112

The first paragraph of 35 U.S.C. § 112 requires that the invention be described in full, clear and exact terms in the specification. The '295 patent specification states the invention to comprise the usual freeze concentration steps together with

> Melting the ice having adhering mother liquor, and returning the melt to the extraction step.
>
> (Col. 2, lines 7-9.)

The drawing forming part of the patent clearly shows that melted ice leaving melter 20 is passed back to a point ahead of the extractor, as confirmed at col. 4, lines 14-16 of the patent. There is no description in '295 of recovering coffee solids from the melted ice by any other means.

The '295 patent issued on Ganiaris III application, which, as stated in

column 1 of the patent, is a continuation of the Ganiaris II application (Serial No. 512,365). The specifications of Ganiaris II and Ganiaris III are essentially identical. The originally filed claims of Ganiaris II included the step of using the melted ice to form additional extract (see claim 1 of Ganiaris II at Ex. 5, p. 12; the remaining original claims being dependent from claim 1, they likewise included that feature). Allowed claim 13 of the Ganiaris II application and dependent claim 14 (Ex. 5, pp. 35-36) also specified using the melted ice solution to form additional extract. It will be recalled that Struthers allowed the Ganiaris II application to become abandoned by failing to pay the issue fee.

Instead of obtaining the issuance of a patent upon the Ganiaris II application, Struthers prosecuted the

Ganiaris III application. This application was virtually identical to Ganiaris II except that the claims (but not the description) were broader. Clause (f) in claim 1 of the '295 patent (which is carried into the other claims) is not limited to returning the melted ice to the extraction step. Rather, it purports to cover any process for "recovering coffee solids from said melted ice". There are a number of methods for recovering the coffee solids from the melted ice other than returning it to the extraction step.

Nestle urged that because the claims are indisputably broader than the invention described in the specification and, consequently, not supported by the specification, the patent is necessarily invalid. See Application of Sus, 306 F.2d 494, 505 (CCPA 1962);

> An applicant cannot under 35 U.S.C. §112 claim a broader invention than that set forth in the written description contained in his specification.

Nestle also relies upon Application of Winkhaus, 527 F.2d 637 (CCPA 1975)

In his affidavit directed to this issue Ganiaris as much as concedes that the specification does not describe a general process for recovering coffee solids from the melted ice. He argues, however, that "[t]he only reason for recycling the melted ice to the extraction [sic] is to recover coffee solids from said melted ice" and, further, that the spirit of the invention is to recover the solids from the melted ice which has been generated as a result of the processing steps (a) through (e)."

This is not a particularly persuasive answer to Nestle's contentions. I do not think the '295 patent could be enforced

against a person who recovered coffee solids from melted ice by means other than returning the melted ice to the extraction step, yet this is what Struthers asserts it has a right to do. In Sus the description of the invention called for the use of particular aryl azides in a light sensitive material and process. The challenged claims, however, called for "aryl and substituted aryl radicals" generally. The Court held that the claims failed to meet the requirements of § 112 in that they were broader than the written descriptions thereof as set forth in the specification. The '295 patent suffers from the same defect and, consequently, is invalid.

This is not a situation such as that which exists in certain other patents which Nestle claims do not comply with § 112. It is not a situation where there

is ambiguity or an inadequate description which can be fleshed out by one skilled in the art. In such a situation it might well be "unduly parsimonious" to declare the patent invalid on § 112 grounds. Rengo Co. Ltd. v. Molins Machine Company, Inc., Docket Nos. 80-2556 & 80-2557 (3d Cir. July 21, 1981), slip op. at 28. In the case of the '295 patent, by way of contrast, a narrow invention is described and a much broader invention is claimed. That clearly constitutes a failure to meet § 112 requirements and Nestle is entitled to summary judgment of invalidity of the '295 patent on that ground.

F. Invalidity of the '295 Patent over the Prior Art - Obviousness

1. Applicable '295 Filing Date

The Ganiaris III application which resulted in the '295 patent was filed on

April 16, 1969. However, it was filed as a continuation of the Ganiaris II application and thus, relying on 35 U.S.C. § 120, Struthers claims the filing date of that application, namely, December 8, 1965. Nestle contends that the '295 patent is not entitled to the benefit of any filing date earlier than the filing date of the Ganiaris III application upon which it was issued by reason of the failure of the Ganiaris II application to disclose the invention claimed in the '295 patent as required by § 112.

As stated in Hinde v. Hot Sulphur Springs, Colorado, 482 F.2d 829, 834 (10th Cir. 1973), "[t]o come within Section 120, the [continuation patent] must: (1) disclose an invention described in the manner provided in 35 U.S.C.A. § 112 in an earlier application; (2) be by the same inventor; (3) be filed

before the patenting of the earlier application; and (4) contain a specific reference to the earlier application". The '295 patent indisputably meets requirements 2, 3 and 4.

I have ruled in the preceding Part of this opinion that the '295 specification is not adequate under § 112 to support the '295 claims in that the specification describes recovery of coffee solids by returning melted ice to the extraction stage whereas the claims are not limited to recovering coffee solids by returning melted ice to the extraction step. Similarly, the Ganiaris II application's specification and claims are limited to recovering coffee solids by returning melted ice to the extraction step, whereas the claims of the '295 patent, which purports to be a continuation of the Ganiaris II, are much broader. The question is posed whether, for the

purposes of § 120, Ganiaris II discloses the '295 invention in the manner prescribed in § 112. Posed differently, are the description requirements of § 112 to be applied in a less stringent manner when determining whether a patent is entitled to an earlier filing date pursuant to § 120?

If claimed subject matter is not described in the parent application and is disclosed for the first time in the continuation application, the latter is not entitled to the filing date of the former, Carter-Wallace, Inc. v. Otte, 474 F.2d 529 (2d Cir. 1972), cert. den., 412 U.S. 929 (1973); Application of Van Langenhaven, 458 F.2d 132 (CCPA 1972); General Foods Corporation v. Perk Foods Co., 419 F.2d 944 (7th Cir. 1969), cert. den., 397 U.S. 1038 (1971).

On the other hand, "[a] mere embellishment, or technical improvement,

of a feature disclosed in the original application, which does not contribute to its novelty, utility, or non-obviousness, does not deprive a continuation-in-part application of its validity, or a patentee of the original filing date of the parent application". Acme Highway Products Corp. v. D.S. Brown Company, 431 F.2d 1074, 1081 (6th Cir. 1970), cert. den., 401 U.S. 956 (1970); see also Hinde v. Hot Sulphur Springs, Colorado, supra.

I conclude ultimately that the entire '295 patent is invalid as obvious over the prior art. For similar reasons, had the issue arisen, the "invention" described in the Ganiaris II application would be found to be obvious. It follows that the embellishment which the '295 patent added to the Ganiaris II application was obvious -- obviousness superimposed on the obvious. For this reason, and for the purposes of this

§ 120 discussion, I conclude that the new material incorporated in the '295 patent was a mere embellishment or technical improvement which does not contribute to the novelty, utility, or nonobviousness of the "invention" described in the Ganiaris II application. For the purposes of the prior art and prior sale analyses, therefore, I shall give the '295 patent the benefit of the Ganiaris II filing date -- December 8, 1965.

2. Prior Art

Nestle urges that it is entitled to summary judgment of invalidity of the '295 patent under 35 U.S.C. § 102(b) since the invention was patented or described in a printed publication more than one year prior to the date of the application for patent in the United States. Based on the same facts, Nestle contends that it is also entitled to

summary judgment of invalidity on the grounds of obviousness under 35 U.S.C. § 103. I have concluded that Nestle is entitled to summary judgment under § 103 but have not made a further determination as to whether the '295 patent is sufficiently identical to certain of the prior art so as to entitle Nestle to summary judgment on § 102(b) grounds as well.

In the section of this opinion dealing with the Muller patents (Part II(E)) I have set forth the law (applicable to this section as well) relating to the criteria for determining obviousness, the presumption of validity, and the appropriateness of summary judgment.[20] I also set forth what I have found to be the undisputed facts as to the art involved in this case and the degree of skill possessed by one having ordinary skill in that art at the

pertinent time.

The prior art relevant to the '295 patent and the manner in which it anticipates and renders obvious the alleged inventions of the '295 patent can be briefly summarized.

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20. Throughout all of its briefs Struthers seeks to answer Nestle's legal contentions concerning the appropriateness of summary judgment on § 103 grounds by citing Diamond v. Diehr, 49 U.S.L.W. 4194 (U.S. Sup. Ct. Mar. 3, 1981), for the proposition that "it is inappropriate to direct the claims into old and new elements and then to ignore the presence of the old elements in the analysis. This is particularly true in a process claim because a new combination of steps in a process may be patentable even though all the constituents of the combination were well known and in common use before the combination was made." Struthers, however, ignores the fact that the issue in Diamond v. Diehr was whether the patent involved fell within the § 101 categories of possible patentable subject matter. It did not deal with the question of novelty or non-obviousness and, as the Supreme Court pointed out, "it may later be determined that the respondents' process is not deserving of patent protection because it fails to satisfy the statutory conditions of novelty under § 102 or nonobviousness under § 103". In other words, the Supreme Court was not addressing the

(Footnote #20 cont.,)
issues which are before us in the present case.

The file wrapper of the '295 patent contains Mr. Drucker's acknowledgement that the 1963 Sivetz reference cited by the PTO (Tab R) shows "all of steps (a), (b) and (c) of [application] claims 9 and 11" (Ex. 6, p. 36), which became patent claims 1 and 3, the two claims of the.'295 patent which are in independent form.

The 1940 Bassett British patent (Tab O), which is directed to freeze concentration of coffee, supplies both these steps and the remaining steps. Every step of '295 claim 1 is in this reference, and Bassett conducts those steps in the same order and for the same purpose. Bassett extracts roast ground coffee with hot water to form an aqueous extract (claim step (a)). The reference describes extracts (infusions) which may

be dilute, of medium concentration or strong, and Ganiaris' Group I affidavit (¶ 16) acknowledges that commercial coffee extracts have solids contents within the claimed range. Bassett further describes partially freezing the extract to form a mixture of ice and more concentrated extract, note page 1, lines 44-47 (claim step (b)). Bassett then describes separating the ice from the more concentrated extract by centrifuging (claim step (c)), as well as washing the surface of the ice and the use of an excess of washing water, as note page 2, lines 2-7 and 115 (step (d)). Bassett further describes melting the ice (step (e)) and recovering solids therefrom (step (f)) by using the melt to prepare additional extract, as note page 2, lines 50-52 and 57-61. Indeed, Bassett describes melting the ice to provide "a weak coffee solution which is used to

produce a further infusion which is in turn subjected to the same [freeze concentration] treatment" (p. 3, lines 36-39).

Bassett's purpose, moreover, is to achieve "a total recovery of the primary materials", i.e., the coffee solids (page 1, lines 26-27). That is the same as Ganiaris' stated purpose, viz., "utilizing all of the dissolved coffee solids adhering to the ice crystals from the centrifugation step" ('295 col. 3, lines 42-44).

Struthers' selection of 5% as the maximum solids level in the melted ice (in contrast to the 2.5% of Ganiaris' 1965 "conception") cannot avoid the invalidating impact of the prior art. The 5% maximum is not disclosed in the '295 patent to be critical; quite to the contrary, it is said only to be "preferred" (col. 3, line 34).

Consequently, the 5% limit cannot establish patentability because it is not a critical limit which distinguishes from what has gone before. Standard Oil Co. v. Tide Water Associated Oil Co., 154 F.2d 579, 585 (3d Cir. 1946). Repatenting that which is old and in the public domain would be all too easy if all that were required were to slip in an appropriate number here and there. As the Tide Water Court put it, the plaintiff suing on such a patent

> has clothed old ideas with an ephemeral semblance of novelty. The knowledge it seeks to monopolize was open for the world to see, before plaintiff showed it in his patent.
>
> (154 F.2d at 591.)

As the Bassett reference shows, the ice crystals removed from a liquid concentrate contain adhering or interstitial concentrated liquor, which can lead to serious economic loss. See also the September 7, 1965 Lund patent

3,205,078 (Tab I, at col. 1, lines 28-38). Various expedients to recover the residual solids were well within the skill of the art. One such expedient is washing of the ice, with recycle or other recovery of solids from the washings, as shown in the 1952 Sperti patent 2,588,337 (Tab C), which evaporated the washings to recover solids; in the 1964 Walker patent 3,156,571 (Tab H), which recycled or evaporated the washings to recover solids; in the 1961 Cole patent 2,967,778 (Tab G); and in the 1944 Bedford patent 2,354,633 (Tab A), over which the Cole patent was held invalid. See Sperti Products, Inc. v. The Coca-Cola Company, 272 F. Supp. 441 (D. Del. 1967), aff'd per curiam, 399 F.2d 607 (3d Cir. 1968).

Another expedient for recovering solids entrained with the ice was to recycle the ice to the extraction step. That expedient is shown in Bassett,

supra, and in the 1960 Bilenker patent 2,949,364 (Tab F, see Fig. 9 and col. 6, lines 13-40); and the 1965 Lund patent 3,205,078 (Tab I; col. 4, lines 9-13).

Step (e) of claim 3, which calls for combining the ice melt with liquid coffee extract, is satisfied by recycling the melt to be combined with extract entering the freeze concentration system, as shown in the references discussed above, or by routing the melt to the extractor, where it combines with freshly produced extract, also shown in the references discussed above. Claim 4 is merely functional in stating the obvious consequence that washing the ice crystals results in both the wash water and the ice crystals containing small amounts of extract. Claim 5 merely adds the notorious expedient of recovering solids from the washings, which is the whole point of washing and is shown in the

prior art discussed above.

Struthers filed an affidavit of the inventor, Ganiaris, and in paragraphs 7 through 18 of the affidavit he seeks to establish that "none of the prior art references cited by Nestle and discussed in ¶¶ 7-17 above disclose the complete combination of steps as claimed in '295".

Mr. Ganiaris' averments regarding Bassett's alleged lack of "intention to form discrete ice crystals in suspension of the extract solution" are irrelevant because only the features included in the claims can be considered in assessing the differences between the claimed invention and the prior art. Paeco, Inc. v. Applied Moldings, Inc., 562 F.2d 870, 874 (3d Cir. 1977); Smith v. Acme General Corp., 614 F.2d 1086, 1088 n.2 (6th Cir. 1980). '295 claim 1 does not state that the mixture of ice and more concentrated extract must be a suspension of discrete

ice crystals. In any event, Bassett's crushed block of ice is "a mixture of ice and more concentrated extract" and, therefore, meets the claim.

Moreover, Mr. Ganiaris' assertion that Bassett does not intend to form discrete ice crystals is contradicted by express statements in the reference. Crystallization of ice is described by Bassett at page 1, lines 53 and 59. Bassett also explicitly states that "crushing of the ice may be dispensed with if the infusion is agitated during the freezing stage, as the ice is then formed in small crystals" (p. 2, lines 120-124).

With regard to Ganiaris' paragraph 11 averments, Bassett plainly teaches using an "excess of wishing water" (p. 2, line 115) and washing until "white ice" is obtained (p. 1, line 104).

In paragraph 12 of his affidavit

Ganiaris states that the melted ice in Bassett '202 is a weak solution and there is no data in the prior art to indicate that a weak solution has less than 5% coffee solids. He further states that the "limit of 5% can be achieved only if the ice crystals are formed as pure discrete ice crystals (substantially no occlusion) in accordance with steps (a), (b) and (c) of the '295 patent".

Ganiaris' alleged invention can be ascertained only from the patent itself, and not from the inventor's later assertions. Further, there is an absence of any such teaching in the specification, which 35 U.S.C. § 112 requires if it be part of the invention. The asserted advantage achieved by the preparation of "unoccluded" ice cannot be relied upon here. See Tinnerman Products, Inc. v. George K. Garrett Co., 292 F.2d 137, 140 (3d Cir. 1961), cert.

denied, 368 U.S. 833 (1961):

> The applicable law is clear that where the particular feature relied upon is nowhere mentioned as an advantage it cannot form the basis of patentability.

Finally, Ganiaris' own specifications negate his newly announced requirement that there be substantially no occlusions of coffee solids in the ice:

(1) "However, any method of removing the water from the coffee extract by crystallization as ice is applicable to the process of this invention" (col. 3, lines 12-25); and (2) "In the melting apparatus 20, the ice with adhering or occluded concentrated coffee solution is melted to result in dilute coffee solution" (col. 4, lines 12-14). The patent specification is thus directly contrary to Ganiaris' current contention that the patent provides or requires unoccluded ice crystals.

It may well be that the '295 patent is invalid under 35 U.S.C. § 102(b) as having been anticipated in earlier patents or other publications. Be that as it may, if there be any differences distinguishing the '295 patent from the prior art described above, they would have been obvious at the time the invention was made to a person having ordinary skill in the art. Therefore, Nestle is entitled to summary judgment of invalidity of the '295 patent on the grounds of obviousness under 35 U.S.C. § 103.

G. Invalidity of the '295 Patent under § 102(d)

Struthers' French patent 1,419,922 (Tab Q; translated in the attached certified document obtained from British opposition 1,196,601), which corresponds to the Ganiaris I application, was

applied for (Demande) on November 3, 1964 and was patented (Delivre) on October 25, 1965. The October, 1965 French patenting date is prior to the December, 1965 filing date which the '295 patent claims. The November, 1964 French application date is more than twelve months prior to the December, 1965 date. 35 U.S.C. § 102(d) provides, in relevant part:

> A person shall be entitled to a patent unless --
>
> (d) The invention was first patented or caused to be patented * * * by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent * * * filed more than twelve months before the filing of the application in the United States * * * .

The claims ("Resume") of the French patent (translated as "summary") specify:

> A. Process for concentrating an aqueous solution by forming ice crystals therein and separating the ice crystals from the residual solution so as to recover the

residual solution as a concentrate, the process being characterized by the following points, separately or in combinations:

> 2. Wash water is recycled in the system.
>
> 5. The ice is recycled and passes from a later stage to an earlier stage.

Nestle contends that all claims of the '295 patent (except claim 2, which calls for recycling the ice to the extraction step) are invalid under § 102(d). DuPlan Corp. v. Deering Milliken Research Corp., 487 F.2d 459 (4th Cir, 1973), cert. den., 415 U.S. 978 (1974). Nestle further contends that all claims, including claim 2, are invalid and unenforceable by reason of Struthers' failure to identify the French patent in the declaration forming part of Ganiaris III, Struthers' failure otherwise to bring the French patent to the attention of the Patent Office during prosecution of Ganiaris III, and the assertion in the

Ganiaris III declaration that "this invention has not been patented in any country foreign to the United States on an application filed by me or any legal representatives or assigns more than twelve months before my parent application";[21] and the further assertion that "no application for patent on this invention has been filed in any country foreign to the United States, except as follows [applications filed abroad in 1966 are listed]" (Ex. 6, p. 15). See Chromalloy American Corp. v, Alloy Surfaces Co., 339 F. Supp. 859, 872 (D. Del. 1972).

In response to these contentions Struthers relies upon paragraphs 19 and 20 of the Ganiaris affidavit. He stated that in the French patent there is one

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21. A like statement appears in the supplemental oath sworn to by Ganiaris after allowance of Ganiaris III (Ex. 6, p. 40).

stream (feed) entering the plant and two streams (a product stream and an ice stream) leaving the plant. "The ice stream leaving the plant cannot be recycled back to the plant for the recovery of coffee solids. Any attempt to recycle this ice stream will defeat the purpose of concentration. The '295 patent, on the other hand, discloses a process which teaches the recycling of melted ice (the effluent stream from a freeze concentration plant) either to the extraction process or to some other process for recovering the coffee solids. In short, the Struthers' French '922 patent refers to internal recycling (within the freeze concentration system), whereas the '295 patent refers to external recycling (outside the freeze concentration system)."

In view of my conclusion that the '295 patent in its entirety is invalid

under § 103, I have not made the analysis required to determine whether it is invalid in whole or in part under § 102(d). This opinion, therefore should not be regarded as a ruling either way on that issue.

H. Invalidity of the '034 Patent over the Prior Art - Obviousness

1. Applicable Filing Date

The Ganiaris IV application on which the '034 patent issued was filed on July 11, 1967. At the time the Ganiaris IV application was filed it claimed the benefit under 35 U.S.C. § 119 of British application 31831/66, filed July 15, 1966, nearly a year earlier. It might be noted parenthetically that even that date was too late to avoid serious problems with respect to a prior sale defense based upon the transactions between Struthers and General Foods which took

place in 1964 and 1965.

By means of patent practice legerdemain Struthers succeeded in having the '034 patent issue with the benefit of the November 4, 1963 date of the Ganiaris I application. It accomplished this in the following manner. Before the close of prosecution, Ganiaris IV was amended (Ex. 7, p. 29) to assert that it was a continuation-in-part of the abandoned Ganiaris II application (Serial No. 512,365, which had a filing date of December 8, 1965). After all prosecution had been concluded, and after the base issue fee had been paid, Ganiaris IV was further amended to assert that Ganiaris II was, in turn, a continuation-in-part of Ganiaris I (Serial No. 321,020) (Ex. 7, p. 40), thus supposedly giving the '034 patent the benefit of the Ganiaris I filing date of November 4, 1963, a date which was comfortably earlier than the

Struthers-General Foods transactions.

Not surprisingly, Nestle challenges the right of Struthers to claim any filing date for the '034 patent earlier than July 11, 1967, the date it was filed.

a. Ganiaris I and II Filing Dates

In order to follow Nestle's argument it is necessary to have in mind the various filing and issuance or termination dates of the four Ganiaris applications. They can be shown diagramatically as follows:

Ganiaris I '522 Patent	Filed 11/4/63	-------- 	Issued 11/8/66
Ganiaris II	Filed 12/8/65	--------	Abandoned 6/20/69
Ganiaris III '295 Patent	Filed 4/16/69	-------- 	Issued 9/29/70
Ganiaris IV '034 Patent	Filed 7/11/67	-------- 	Issued 11/16/71

It will be noted that Ganiaris I and

II co-existed for a time. That is to say, Ganiaris I was issued after Ganiaris II was filed and before Ganiaris II was deemed abandoned for non payment of fees. Ganiaris II, however, never asserted that it was a continuation of Ganiaris I.

It will also be noted that Ganiaris IV and Ganiaris II co-existed for a time. That is to say, Ganiaris II was abandoned after Ganiaris IV was filed and before Ganiaris IV issued as the '034 patent. Ganiaris IV was amended to assert that it was a continuation-in-part of the Ganiaris II application.

Finally, it will be noted that Ganiaris IV and Ganiaris I never co-existed. That is to say, Ganiaris I had issued as the '522 patent before Ganiaris IV was filed.

35 U.S.C. § 120 provides as follows:

§ 120. Benefit of earlier filing date in the United States

> An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, by the same inventor shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

Applying the provisions of the statute I conclude that the amendment of Ganiaris IV to assert that it was a continuation-in-part of Ganiaris II was effective to give Ganiaris IV the benefit of the December 8, 1965 filing date of Ganiaris II. I am assuming that there was sufficient disclosure of the invention in Ganiaris II to meet the requirements of § 112. Ganiaris II was filed previously to Ganiaris IV; Ganiaris

IV was filed before the termination of proceedings on Ganiaris II; and Ganiaris IV was amended to contain a specific reference to Ganiaris II.

Applying the provisions of § 120, I conclude that the amendment of Ganiaris IV which purported to amend Ganiaris II to assert that Ganiaris II was a continuation-in-part of Ganiaris I was a boot-strapping operation which was not effective to give Ganiaris II and thus Ganiaris IV the benefit of the Ganiaris I filing date. Even though Ganiaris I met the requirements of § 112 and even though Ganiaris I was filed previously to Ganiaris II, Ganiaris II was never effectively amended to contain a specific reference to Ganiaris I as required by § 120. That section does not contemplate assertion of a continuation-in-part by the posthumous amendment of the earlier patent. After the Ganiaris II

proceedings had terminated through non-payment of the fee, it was not possible for Struthers to breathe life into the dead body and to amend Ganiaris II through the vehicle of amending Ganiaris IV. The cases upon which Struthers relies do not support its position. In each there was a chain of three patent applications. In each case the second application in the chain referred to the first and the third in the chain referred to the second but not to the first. The Court held, in each case, that because the third application did not refer to the first, it was not entitled to § 120 benefit of the filing date of the first. Sampson v. Ampex Corporation, 463 F.2d 1042 (2d Cir. 1972); Sticker Industrial Supply Corp. v. Blaw-Knox Co., 405 F.2d 90 (7th Cir. 1968); Hovlid v. Asari, 305 F.2d 747 (9th Cir. (1962).

That is not the problem in the present case, where the Ganiaris IV application was amended, albeit belatedly, to refer to the first and second applications in the chain. The problem in the present case is that the second application in the chain (Ganiaris II) was never effectively amended prior to its termination to refer to the first application (Ganiaris I). Ganiaris IV could not obtain the benefit of Ganiaris I directly because it was not filed before termination of proceedings on Ganiaris I. Ganiaris IV could not obtain the benefit of Ganiaris I through Ganiaris II because Ganiaris II never had the benefit of Ganiaris I. The purported amendment of Ganiaris IV, designed to amend Ganiaris II to refer to Ganiaris I, is another example of Struthers' agility

in practicing before the Patent Office, but was a nullity.[22]

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22. Struthers' flexibility in seeking its ends is illustrated by the manner in which it dealt with the facts. The supplemental oath of Neophytos Ganiaris filed May 10, 1971 in Ganiaris IV (Ex. 7, p. 43) represented the Ganiaris II application (Serial No. 512,365) to be his "original application". That being so, it is difficult to conceive how Ganiaris IV could be accorded the benefit (Footnote #22 cont.,) of any earlier application, and specifically the benefit of the earlier-filed Ganiaris I application.

Nothing daunted, however, a month after the issue fee had been paid, Ganiaris signed a declaration which was filed June 16, 1971 in Ganiaris IV (Ex. 7, p. 41). The declaration, which newly recited that Ganiaris II is a continuation-in-part of Ganiaris I, conflicts with Ganiaris' sworn statement, in the supplemental oath filed just a month earlier, that Ganiaris II was his original application.

See also page 41 of Struthers' supplemental answers to Nestle's First Interrogatories where Struthers' states, with respect to the '034 patent that: (i) the invention of claims 1-4 was conceived on or about December 23, 1963 (after the Ganiaris I filing date); (ii) the invention of claim 5 was conceived in April, 1964; and (iii) the invention of each claim was reduced to practice on December 8, 1965. The latter date is the

(Footnote #22 cont.,)
date when the Ganiaris II application was filed -- two years after the November 4, 1963 Ganiaris I filing date.

See Clover Club Foods Co. v. Gottschalk, 178 USPQ 505, 508 (C.D. Cal. 1973), which involved a situation identical to that at hand, except that the applicant lacked the ingenuity to remedy the non-reference deficiency by seeking to amend a terminated application:

> In a series of four patent applications, the fourth application in the series is not entitled to the benefit of the filing date of the first application in the series, if the second application in the series does not contain a specific reference to the first application in the series. 35 U.S.C. § 120.

Thus, the '034 patent is entitled to the benefit of the Ganiaris II December 8, 1965 filing date. It is not entitled to the benefit of the Ganiaris I November

4, 1963 filing date.

b. The British Application Filing Date

Having concluded that the '034 patent is entitled to a December 8, 1965 filing date, it is unnecessary to decide whether under 35 U.S.C. § 119 it is entitled to the July 15, 1966 filing date of British application 31831/66.

In paragraphs 22 through 31 of his affidavit, Ganiaris sought to show that the various prior art references relied upon by Nestle did not disclose one or another of the features of the '034 patent claims. However, an examination of these references, including those referred to in connection with the discussion of '295 prior art, the '522 patent, and certain other patents discussed below, demonstrates that any differences in the '034 patent are obvious within the meaning of § 103.

Because of the similarity between the claims of the '034 and '295 patents, the prior art discussed under Part III F (2) above is applicable also to invalidate the '034 patent. The substantial similarity of the claims is readily seen from the following side-by-side comparison of claim 1 of each patent.

'295 Patent Claim 1	'034 Patent Claim 1
1. A process for preparation of concentrates of coffee which comprises:	1. A process for the preparation of a concentrate of coffee
(a) extracting roast ground coffee with hot water to form an aqueous extract having 15-30% dissolved solids therein;	from a liquid containing about 24% coffee solids which comprises
(b) partially freezing said mixture of ice and more concentrated extract having at least 20% dissolved solids therein;	(a) partially freezing aqueous coffee extract in at least two serially connected crystallizer passes to form a mixture of about 20-30% by weight

	of ice and a concentrated extract,
(c) separating said ice from said more concentrated extract by centrifuging under conditions whereby a portion of said more concentrated extract adheres to said ice;	(b) separating said ice by centrifugation from said mixture under conditions whereby a portion of said concentrated extract adheres to said ice,
(d) reducing the amount of said more concentrated extract adhering to said ice to a finite amount less than 5% by weight of said ice by washing and centrifuging;	(c) reducing the amount of said concentrated extract adhering to said ice by centrifuging and by washing in the centrifuge with addition of wash water or melted ice
(e) melting said ice to a solution containing dissolved extract which is less than 5% by weight of said melted ice; and	(d) melting the ice to form a dilute solution which contains the coffee which had been adhering to the ice and
(f) recovering coffee solids from said melted	(e) recovering coffee solids from said melted ice.

As the comparison shows, the '034 starting concentration of 24% falls

within the 15-30% range of '295. By concentrating a 24% extract one necessarily obtains a concentrate containing the more than 20% solids specified in '295. The only point of difference is that '034 does not quantify the solids remaining on the ice after washing as being less than 5%; but, as shown above, the whole point of washing is to bring the residual solids to such a low level.

There is thus no distinction of substance between claim 1 of each patent. As described below, the minor features added by the dependent claims of the '034 patent were known and do not impart any patentable or unobvious distinction.

Claims 7 and 12 of the Ganiaris IV application (which, after amendment, became claims 1 and 5 of the '034 patent), were rejected for double

patenting over the '295 patent (Ex, 7, p. 34). Struthers acquiesced in the rejection, and amended claim 7. The question arises whether the amendments added anything of patentable significance. I conclude that the prior art shows the features which were inserted by amendment.

The Ganiaris '522 patent (Tab K) describes at column 3, lines 22-46, freeze concentrating a coffee solution containing "about 24%" coffee solids (25% is disclosed) to form a mixture of ice and a concentrated extract having 37% solids.[23] The ice is separated in centrifuge 32, and the amount of concentrated extract adhering to the ice is reduced by washing the ice. Figure 2 of the '522 patent depicts wash line 80

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23. The importance to Struthers of its efforts to obtain the benefit of the '522

(Footnote #23 cont.,)
filing date for its '034 patent is demonstrated by this discussion of prior art (see Part H(1)(a)). If Struthers had been able to obtain for its '034 patent (the Ganiaris IV application) the benefit of the filing date of the '522 patent (Ganiaris I application), the '522 patent could not have been used against the '034 patent as prior art. However, having attempted (albeit improperly) to obtain the benefit of the '522 filing date, Struthers admits that the '034 "invention" was disclosed in the '522 patent. 35 U.S.C. § 120.

spraying water onto the ice in the centrifuge (see also col. 3, lines 45-50). The separated ice is slurried with a 13.4% coffee solution, which melts some of the ice, and the slurry is recycled to crystallizer 39 (see col. 2, lines 50-56), thereby recovering the solids. The separated extract is further concentrated in serially connected crystallizer 64. The filing date of the '522 patent is earlier than any invention date Struthers has alleged for the '034

patent.[24] Moreover, by filing a terminal disclaimer in Ganiaris IV to overcome the rejection for double patenting over the '522 patent, Struthers admitted that the '034 subject matter is patentably indistinct from that claimed in '522.

The 1946 Kellogg patent 2,408,260 (Tab B) describes freeze concentration of coffee extract, with return of the separated ice to the soaking vessel 10 used to extract the ground coffee (see col. 3, lines 28-33 and Fig. 1 of the drawing), thereby recovering the solids from the melted ice. Melting of the ice and recovery of solids therefrom is also

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24. Struthers' supplemental answer to Nestle Interrogatory 62 asserts a conception date of December 23, 1963 for claims 1-4 of the '034 patent and April, 1964 for claim 5. Reduction to practice on December 8, 1965 (which is the filing date of Ganiaris II) is asserted for all claims.

shown in the 1959 Berger patent 2,896,418 (Tab E) at col. 3, lines 4-6. Lund patent 3,205,078, filed 1961 and issued 1967 (Tab I), describes freeze concentration of coffee and other comestibles, and teaches melting the separated ice and using it for extraction to minimize losses (col. 3, lines 12-17). The feature of forming about 20-30% by weight of ice in the concentrated extract is shown by Svanoe patent 3,285,021 (Tab L), filed 1962 (see col. 4, lines 5-6, teaching 10-30% ice), and by Pike patent 3,285,022 (Tab M), filed January, 1963 (see col. 3, line 32, teaching 25% ice). Svanoe patent 3,347,058 (Tab N), filed July, 1963, describes multi-stage freeze concentration of coffee extract with about 20-40% ice formed in each stage (col. 5, line 24), and teaches that the ice crystals can be washed with water or

dilute extract, the washings being recycled (col. 5, lines 7-9). The 1961 Cole patent 2,967,778 (Tab G), describes freeze concentration of beverage liquids and washing of the ice with water derived from thawing ice crystals (col. 6, lines 20-24).

As to claim 2 of the patent, mixing the ice with feed solution is shown in the Ganiaris '522 patent and Svanoe 3,347,058, discussed above.

The claim 3 features of melting the ice and using it to wash other ice and recycling the wash liquid into the feed is shown in the Ganiaris '522 patent. It describes routing ice via pipe 82 and pump 83 to melter condenser 16 (col. 3, lines 48-53), where the ice is melted. The melted ice passes through pipe 86 and pump 87 to centrifuge 47, which it enters through pipes 80 and 81 (col. 4, lines 6-14). The water entering centrifuge 47

through line 80 is used to wash the separated ice (col. 3, lines 48-50). As shown in Fig. 2 and described in the lower portion of column 3, wash water entering through line 80 is sprayed onto the ice crystals and collected in compartment 131 to be drawn off through pipe 80', as shown in Fig. 1. As is seen from Fig. 1, line 80'runs down to join pipe 34 and thence through pump 35 its contents are fed to first crystallizer 41. Cole patent 2,967,778 (Tab G) also shows melting ice and using it as wash liquid. Recycling of the washings to the feed is also shown in Svanoe 3,347,058 (Tab N), as note Example 1, col. 4, line 60, through col. 5, line 9, and in Pike 3,285,022 (Tab M) at col. 3, lines 33-36.

As to the claim 4 feature of recycling some of the concentrated coffee solution into the feed, the '522 patent describes recycling a portion of

concentrated solution leaving centrifuge 47 via pipe 37 to the feed contained in line 30 (col. 3, lines 4-9; and see Fig. 1). The claim 5 feature of recovering coffee solids from the wash water is shown in the '522 patent by recycling them to crystallizer 41, as discussed above, and in Svanoe patent 3,347,058.

Any differences distinguishing the '034 patent from the prior art would have been obvious at the time the invention was made to a person having ordinary skill in the art and, consequently, Nestle is entitled to summary judgment of invalidity of the '034 patent under 35 U.S.C. § 103.

I. Invalidity of the '034 Patent under § 112

Nestle urges that the '034 patent fails to contain a full, clear and exact description of the subject matter it claims and that the patent is accordingly

invalid under the first paragraph of 35 U.S.C. § 112.

Claim 1 of the '034 patent (and all of the other claims as well, for they are all in dependent form) requires "preparation of a concentrat of coffee from a liquid containing about 24% coffee solids" by partial freezing and separating ice.

According to Nestle this is not the same invention described in the specification. There is no written description in the specification of partially freezing (i.e., freeze concentrating) a liquid containing 24% coffee solids. According to the specification the feed solution entering at pipe 11 contains 26% solids; after dilution that stream (in pipe 13) contains 13% to 24% solids; it is then enriched by mother liquor (entering through pipe 28) to contain some unspecified percentage of

solids, less than 30%. Thus, according to Nestle, there is no written description in the specification of freeze concentrating a 24% solids solution and thus no written description in the specification of the subject matter claimed in the '034 patent.

The Third Circuit has cautioned against being "unduly parsimonious" in the application of § 112, Rengo Co. Ltd. v. Molins Machine Company, Inc., Docket Nos. 80-2556 & 80-2557 (3d Cir. July 21, 1981), Slip Op. at 28. This approach is particularly appropriate when dealing with a patent in a field where the prior art is fulsome and the skill in the art is very high. In such a situation "skill in the art can be relied upon to supplement that which is disclosed as well as to interpret what is written". Rengo Co. Ltd., supra, at 28.

Therefore, I will deny Nestle's

motion for summary judgment on § 112 grounds.

J. Conclusion

For the reasons set forth above Nestle's motion for summary judgment of invalidity of the Ganiaris '295 patent will be granted on the grounds of non-compliance with 35 U.S.C. § 112 and obviousness over the prior art, 35 U.S.C. § 103, and Nestle's motion for summary judgment of invalidity of the Ganiaris '034 patent will be granted on the grounds of obviousness over the prior art, 35 U.S.C. § 103.[25]

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25. At the time of the hearing on Nestle's motions directed to the Ganiaris patents I reserved decision on Nestle's contention that the '034 patent is invalid by reason of double patenting. In view of my conclusion that the '034 patent is invalid by reason of double patenting. In view of my conclusion that the '034 patent is invalid for obviousness under § 103 it is unnecessary to address this contention.

IV. The Reimus Patents

Nestle moved for summary judgment of invalidity, and/or unenforceability of Reimus and Saporito patents ("Reimus") 3,381,302 (the '302 patent), 3,449,129 (the '129 patent), 3,632,353 (the '353 patent), and 3,474,723 (the '723 patent) on the following grounds:
Nestle's motions directed to the Ganiaris patents I reserved decision on Nestle's contention that the '034 patent is invalid by reason of double patenting. In view of my conclusion that the '034 patent is invalid for obviousness under § 103 it is unnecessary to address this contention.

1. The four Reimus patents are invalid for failure to prosecute in the manner required by law.[26]

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26. Nestle alleged three kinds of violations of Patent Office Rules

(Footnote #26 cont.,)
committed by Struthers while prosecuting the Reimus applications: (i) There were numerous interviews with the examiner after which Struthers failed to make of record the reasons presented warranting favorable action. 37 C.F.R. § 1.133(b). (ii) When prosecuting the Reimus II and Reimus IIIA applications (hereinafter defined) Struthers violated 37 C.F.R. § 1.133(a) by interviewing the examiner to discuss patentability before there had been an official action. (iii) Struthers failed to comply with the requirements of 37 C.F.R. § 1.111 that supposed errors in the examiner's action be distinctly and specifically pointed out in writing, that the applicant respond in writing to every ground of rejection and that the applicant specifically point out how the language of the claims patentably distinguishes them from the prior references. It is clear from the record that Struthers' conduct in prosecuting the Reimus applications was deficient at least with respect to items (i) and (iii). However, at the June 16, 1981 hearing I denied Nestle' motion for summary judgment on this ground because the remedy for violation of Patent Office Rules is equitable in nature, requiring a weighing of all the circumstances, Monsanto Co. v. Rohm & Haas Co., 456 F.2d 592 (3d Cir.), cert. denied, 407 U.S. 934 (1972), and therefore not readily susceptible to summary judgment.

2. The applications upon which the four Reimus patents issued became abandoned by operation of law.

3. The '129 and '353 patents are invalid because they claim subject matter given up during prosecution of the application for the '302 patent.

4. The '129, '353 and '723 patents are invalid by reason of double patenting.

5. The '129, '353 and '723 patents are invalid and void for want of legally adequate oaths or declarations.[27]

6. The four Reimus patents are invalid by reason of prior use and sale.

7. The four Reimus patents are invalid under § 112.

8. The four Reimus patents are invalid over the prior art.

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27. At the june 16, 1981 hearing I ruled that the deficiencies in Struthers' prosecution of the applications (legally inadequate oaths or declarations) to which Nestle referred as a ground for summary judgment were highly technical in nature, and I denied the motion for summary judgment on that ground.

9. The four Reimus patents are invalid and unenforceable by reason of Struthers' withholding material facts from the Patent Office.

After the hearing on the Group III motion I reserved decision on all of the above grounds except grounds 1 and 5. This opinion deals with the reserved matters.

A. Description of the Patents

1. Reimus '302 Patent

The '302 patent is for 'Freeze Concentration of Coffee Extract". Its abstract of disclosure reads: "A process is described for the concentration of comestible liquids by partially freezing ice therefrom and separating the ice from the concentrated liquid. Prior to freezing the ice the liquid is chilled to

a temperature no lower than about 32°F. which is near to, but substantially above, the freezing point and the liquid is prefiltered so that waxes and similar material are removed before the ice is formed."

The specifications recite that this invention relates to an improvement in the process of preparation of concentrated comestible liquids and liquid extracts with which the reader of this opinion should by now be familiar. The problem to which the invention directs itself arises from the fact that during the freezing process, which is followed by formation of ice and the separation of the ice from the concentrated extract, a gummy or waxy material is often precipitated from the solution prior to the ice formation. This material collects on the centrifuge basket and clogs it. The invention

consists of a process for preparing the extract, cooling the extract to a temperature above that at which ice forms so as to precipitate the gummy, waxy material, removing the gummy, waxy material and then proceeding with the freeze concentration steps. When this practice is followed, "the centrifuge basket does not become plugged with precipitated tars and waxes and the separation and washing processes are facilitated in their efficiency".

The claims of the patent read:

We claim:

1. In a process for the concentration of liquid coffee extract which forms insoluble precipitate at above the temperature at which ice forms therein and which contains therein about 10 to 40% dissolved solids comprising partial freezing of said liquid extract to form ice and concentrated liquid extract, the improvement which comprises precooling said liquid extract to a temperature between about 32 to 45°F. to precipitate insoluble material therefrom, storing said liquid extract in said temperature range

until sufficient precipitate occurs without substantial adverse flavor effect, removing said insoluble material from said liquid extract, subsequently subjecting said liquid extract to reduced temperature to form ice therein, and separating ice from said concentracted extract.

2. The process of claim 1 wherein said coffee extract contains from 15 to 30 percent coffee solids.

3. The process according to claim 1 in which the liquid is kept under agitation during the precooling and precipitation to prevent adherence of wax and gum to the heat transfer surface.

2. Reimus '129 Patent

The '129 patent is for a "Concentration Process". Its abstract of disclosure reads: "A process is described for the concentration of coffee liquid by partially freezing ice therein and separating the ice from the concentrated liquid. Prior to freezing the ice, the liquid is chilled to a temperature range from about 45° to 80°F.

to form a mixture of waxes and similar material and liquid coffee extract and the mixture is treated so that the waxes and similar material are removed from the liquid before the ice is formed." The two differences between the '302 and '129 patents disclosed in the abstracts are (i) the products involved, the '302 patent being applicable to all comestible liquids (including coffee) and the '129 patent being directed to coffee liquid, and (ii) the temperatures for removing the gummy, waxy material, the '302 patent calling for a temperature no lower than about 32°F., which is substantially above the freezing point (32° to 45°F. according to the claims), and the '129 patent calling for a temperature of 45° to 80°F.

The specifications of the '129 patent are the same as the specifications of the '302 patent. The claims of the '129

patent read:

What is claimed is:

1. In a process for the concentration of liquid coffee extract, which forms insoluble precipitate material at above the temperature at which ice forms therein and which contains therein about 10 to 50% dissolved solids, comprising partial freezing of said liquid extract to form ice and concentrated liquid extract, the improvement which comprises: chilling said liquid extract to a temperature between about 45° and 80°F. to induce formation of insoluble precipitate material therein; holding said liquid extract in said temperature range until after insoluble precipitate material forms; removing said insoluble precipitate material from said liquid extract; subsequently subjecting said liquid extract to reduced temperature to form a mixture of ice and concentrated extract; and separating ice from said concentrated extract.

2. The process according to claim 1 in which the liquid extract is kept under agitation during holding and formation of precipitate.

3. The process according to claim 1 in which the coffee extract to be treated contains about 15% to 30% dissolved solids.

4. A process according to claim 1 in which ice is separated from coffee extract by centrifugation.

5. A process according to claim 1 in which insoluble precipitate is separated from coffee extract by centrifugation.

6. A process for preparing a dehydrated coffee beverage product soluble in water from a liquid coffee extract containing from about 10% to about 50% by weight dissolved solids, some of which form insoluble matter at a temperature above the temperature at which ice forms in the extract, including the steps of:

(a) chilling the extract to a temperature range of from about 80°F. to about 45°F. and maintaining the extract in the temperature range for a period of time sufficient to precipitate at least a portion of the insoluble matter;

(b) removing the precipitated insoluble matter formed within the range of about 80°F. to about 45°F. from the extract; and

(c) then subjecting the extract to dehydration.

3. Reimus '353 Patent

The '353 patent is for "Removal of Tar and Waxes in Freeze Concentration of Coffee". Its abstract reads: "A process for making coffee concentrates is

described in which liquid coffee of high solids concentration is chilled within a temperature range of 80° to 36°F. and precipitates formed within this temperature range are removed prior to freeze concentration by forming slush ice in the coffee, separating the ice from the coffee and then treating the ice so separated to recover residual coffee." According to the abstract this invention relates to coffee alone and prescribes a temperature range of 80° to 36°F. in which to precipitate, recover and remove the offending gummy, waxy material. With minor variations (e.g., Col. 4, lines 15-38), the specifications of the '353 patent are identical to the specifications of the '302 and '129 patents.

The claims read:

We claim:

1. A process of the concentration of a liquid aqueous coffee extract which when chilled produces a precipitate which is insoluble in said extract above the temperature at which ice forms therein, comprising: chilling a feed liquid extract containing 24 percent by weight dissolved solids to a temperature between 80° and 36°F. to form a precipitate therein; holding said liquid extract at a chilled temperature below 80°F. until precipitate forms; separating said precipitate and said extract; subsequently concentrating said extract by subjecting said liquid extract to reduced temperature to form a mixture of ice and concentrated liquid extract; separating ice from said concentrated extract; and treating the ice to recover residual coffee solids therefrom.

2. The process according to claim 1 in which the chilled extract is agitated at temperatures between 80°F. and 36°F.

3. A process according to claim 1 wherein the chilled extract is held at a temperature between 36°F. and 45°F.

4. A process according to claim 1 wherein the chilled extract after removal of precipitate is freeze concentrated to remove part of the water present in the extract, as ice, the ice is washed and coffee solids are recovered from the washings.

5. A process as claimed in claim 1

wherein separation of precipitate is effected by filtration above 36^0F.

6. A process as claimed in claim 1 wherein separation of precipitate is effected by centrifugation above 36°F.

7. A process as claimed in claim 1 wherein the precipitate free liquid extract is concentrated in a single-stage crystallizing process.

8. A process as claimed in claim 1 wherein the precipitate free liquid extract is concentrated in a single-staged crystallizing process.

9. A process as claimed in claim 1 wherein the precipitate free liquid extract is concentrated in a tubular scraped surface heat exchanger.

10. A process as claimed in claim 1 wherein ice is separated from the liquid in a centrifuge and the ice is washed while in the centrifuge.

11. A process as claimed in claim 10 wherein washing liquid is treated to recover coffee content therefrom after washing the ice.

12. A process as claimed in claim 1 in which the extract is agitated while forming a mixture of ice and concentrated extract.

4. Reimus '723 patent

The '723 patent is entitled "Beverage

Apparatus". Its abstract reads: "A system of apparatus for removing water from coffee and tea extract by first chilling to form a suspension of solids in the liquid is provided which removes the solids from the liquid and thereafter forms a mixture of ice and liquid. The ice is separated in a centrifuge and is washed. Apparatus for removing the solids before forming ice prevents plugging of the centrifuge." The '723 patent purports to disclose an apparatus which performs the process disclosed in the Reimus '302, '129 and '353 patents. The drawing which accompanies the '723 patent is the same as the drawing which accompanies the other Reimus patents (with two variants in the nomenclature).

The specifications differ from those of the other three Reimus patents in that an apparatus is described rather than a process. The claims read as follows:

What we claim is:

1. An apparatus system for concentration of aqueous liquid coffee or tea extract comprising: precooling and holding means, a precipitate separation device, a first line conducting cooled extract from said precooling and holding means to said separation device, a tubular ice crystallizer, a second line conducting separated extract from said separation device to said tubular ice crystallizer, a centrifuge ice separator, a third line conducting a slurry of ice in a concentrated liquid extract to said centrifuge ice separator from said crystallizer, a fourth line conducting concentrated extract from said centrifuge ice separator, means removing ice from said centrifuge ice separator, and means for washing said ice.

2. An apparatus system according to claim 1 including means agitating said extract in said precooling and holding meads.

3. An apparatus system according to claim 1 in which means are provided for washing said ice in said centrifuge.

4. An apparatus system according to claim 1 including means in said tubular ice crystallizer agitating said extract.

5. An apparatus system according to claim 1 in which said ice crystallizer is a scraped surface crystallizer.

B. Prosecution of the Reimus Applications

Four applications for patent, all of which were owned and prosecuted by Struthers, are pertinent to the Group III motion which is directed to the dewaxing patents described above. The first application (Reimus I; Serial No. 511,173; Ex. 8) resulted in patent 3,381,302. The second application (Reimus II; Serial No. 763,276; Ex. 9) resulted in patent 3,449,129. The third application (Reimus III-B; Serial No. 828,419; Ex. 10) resulted in patent 3,632,353. The fourth application (Reimus IV; Serial No. 763,851; Ex. 11) resulted in patent 3,474,723.

1. THE REIMUS I APPLICATION (The '302 Patent)

In December, 1965 Struthers filed the Reimus I patent application in the name

of its employees Richard G. Reimus and Anthony Saporito.[28] The alleged invention, and the discovery on which it is based, are set forth in Reimus I (and in the '302 patent) in the following words:

> To improve the flavor of the soluble coffee, it has been often proposed to remove substantial amounts of water in the extract by partially freezing the extract and separating the resulting pure ice crystals from the concentrated extract.
> * * *

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28. Struthers' supplemental answer to Nestle Interrogatory 59 states that Mr. Reimus directed operation of Struthers' mobile (railroad flatcar) freeze concentration unit and that he also worked on the freeze concentration system sold to General Foods. According to Struthers' answer to Coca-Cola Interrogatory 26, Reimus' employment was terminated in August, 1968 "for lack of work". The interrogatory answers further state that Mr. Saporito had functioned as a maintenance employee, mail clerk, blueprint room helper, and laboratory technician, and that he worked with and reported to Mr. Reimus.

However, when coffee extract is cooled to near its initial freezing point, a gummy or waxy solid material often precipitates from solution prior to ice formation. This wax or tar is carried along with the ice crystals and coffee extract into the centrifuge and collects on the centrifuge basket, eventually plugging the basket and preventing the complete separation of ice from concentrated extract.

This problem of the precipitation of insoluble materials in the coffee extract is not a problem exclusive of coffee extracts alone, but is also encountered in the preparation of other concentrated extracts of comestible materials. Thus, the process of this invention is also applicable to the preparation of concentrated extracts of such comestible materials as tea, grape juice, apple juice, beer and orange juice.

* * *

The objects of this invention are accomplished by a process which comprises preparing a comestible liquid or liquid extract, cooling the liquid to precipitate material insoluble at the temperature at which ice forms therein, removing insolubles from the resultant mixture and then subjecting the insoluble-free mixture to concentration by partial freezing of water therefrom.

(Ex. 8, pp. 4-6; '302 patent at cols. 1-2.)

The specification also states that the formation and precipitation of tars, gums and waxes is time-dependent and may require "from a few seconds to several or many hours", "depending on the nature of the extract" (Ex. 8, p. 9). The specification also warns that continued exposure of coffee extract to low temperature "will also cause the formation of a non-waxy particulate precipitate", which "should be avoided because it is tantamount to degradation of the coffee extract" (Ex. 8, p. 9). Neither the examples nor any other part of the specification, however, specify how long one should hold a coffee extract at any given temperature in order to precipitate undesirable "tarry" substances without also losing desirable constituents and degrading the extract. The examples do not mention time.

The originally filed claims were not

limited to coffee. Claim 1 had no top temperature limitation. Dependent claim 6 specified a temperature of 32° to 80°F.; dependent claim 7 (which was cancelled before examination of the application; Ex. 8, p. 24) specified a temperature of 32° to 45°F. None of the claims made any mention of how long the liquid should be cooled (Ex. 8, pp. 15-16).

On May 1, 1967, Mr. Drucker petitioned to accelerate examination of the application (Ex. 8, p. 24). He stated that a search of prior art patents had been made but enclosed a copy of only one patent (the 1946 Frederickson patent 2,410,157; Ex. 8, p. 26; Tab D), which was "deemed most closely related to the subject matter encompassed by the claims".

In the petition Mr. Drucker acknowledged that the prior art Frederickson patent taught "removal of

waxy substances from the coffee", and that it taught such removal prior to concentration of the extract. In fact, the Frederickson patent teaches "removing the waxy substances of varying densities from a liquid coffee extract [by] subjecting the extract to a period of quiescence in a cooling zone at a low non-freezing degree of temperature to permit the relatively heavier waxy substances to settle to the bottom of the extract, [then] separating the liquid extract from the heavier waxy substance * * * " (Claim 14, foot of col. 11; Ex. 8, p. 31). A temperature of 33° to 34°F. -- which is within the range claimed in the '302 patent -- is suggested (Col. 6, line 50; Ex. 8, p. 28).

The examiner cited the 1924 Zorn patent 1,507,410 (Tab A), under 35 U.S.C. § 102 in the first official action (Ex. 8, p. 32) as "fully meeting" the claims.

Zorn teaches cooling coffee extract without freezing it, and then removing the "undesirable elements" which are "thrown into suspension by the cooling of the liquid". After removing the precipitated substances, the liquid is frozen into a "mushy state" and the ice crystals are removed, preferably by centrifugation, to obtain a concentrated coffee solution. Zorn thus taught "dewaxing", followed by freeze concentration, as early as 1924.

The examiner, Mr. Greenstein, also rejected other of the claims over Zorn under § 103 because:

> Zorn . . . treats coffee extract in exactly the manner claimed. . . . It is considered that the solids values [of the extract] recited by the instant claims impart no patentable significance to the claims, because their determination is well within the purview of one having ordinary skill in this art, particularly in the light of the Zorn teaching. Case law has long established the doctrine

> that determination of optimum proportions, as in the instant claims, is not patentable.
>
> (Ex. 8, pp. 32-33.)

Other claims were rejected as unpatentable over Smith patent 3,102,036 (Tab G), filed 1960, which shows multi-stage freeze concentration of coffee and other beverages, in view of Zorn and the 1941 Rolle patent 2,234,063 (Tab C), which cools tea and other extracts, suitably to between 34° and 40°F., and then removes the resultant precipitate (see p. 4, right col., lines 11-15).

The examiner also cited the 1957 Tarasch patent 2,804,389 (Tab E), which states that coffee (beans) contain a fat called coffee wax, which is soluble in hot or boiling water and that a very considerable amount of such wax is liberated into brewed coffee; and the examiner also cited the 1946 Frederickson

patent (supra).

In response to the official action Mr. Drucker cancelled several of the dependent claims, including claim 6 which recited a temperature range of 32° to 80°F., and limited all of the remaining claims by amending claim 1 to specify a temperature range of 32° to 45°F. (Ex. 8, p. 36). The accompanying remarks urged that this temperature range (which had been specified in claim 7, the claim cancelled in the petition to accelerate examination) distinguished the amended claims from the Zorn reference because:

> In ZORN, at column 2, page 1, it is noted that the temperature at which the prechilled liquid is filtered is as low as possible without actually freezing. Unlike this method of ZORN, it has been found that the prechilled material should be filtered at a temperature of from 32° to 45°F in order to avoid flavor degradation. This temperature is clearly above the lowest possible temperature above the freezing point.

(Ex. 8, p. 36-37.)

The remarks also relied on Reimus' disclosure that a 30% solids coffee extract freezes at about 27°F.

In furtherance of the above-quoted assertion that a temperature of 32° to 45° F. was important to avoid flavor degradation, Mr. Drucker also represented that the Reimus disclosure at page 6, lines 21-27, "pointed out that most temperatures below the preferred range should be avoided because of degradation of the coffee extract (Exh. 8, p. 37)." That assertion is not correct. The paragraph of the specification to which he referred states that "continued exposure" to low temperature causes degradation, and that exposure "sufficient to cause" such degradation should be avoided. The restriction is thus on duration of exposure, and not on the temperature to which the extract is exposed. There is nothing in that

passage to suggest that temperature below the claimed range (i.e., below 32°F.) should be avoided. Indeed, the Reimus application states that one embodiment of the invention comprises cooling the extract to below the freezing point, so that ice is formed along with the insoluble precipitate (Ex. 8, p. 8).

Despite the examiner's admonition that extract solids values impart no patentable significance to the claims (original claim 5 recited 15 to 30% solids in the extract), Mr. Drucker amended Claim 1 to recite the broad range of 10 to 40% solids and urged (Ex. 8, p. 36) that because of the effect on "flavor quality" the claims thereby avoided Zorn. He represented that the amendment found support in the Reimus application at page 4, line 20, but that disclosure is antithetical to, rather than supportive of, the 10 to 40% range as

promoting flavor quality. That passage states that while the solids content of the extract may be as high as 40 to 50%, high solids content often lowers the flavor quality, and a solids content of 10 to 30% is accordingly preferred.

There is nothing in Zorn which excludes treating extract within the extract solids range of 10 to 40%, or which restricts the Zorn disclosure to solids contents below 10% or above 40%.

In a further effort to distinguish Zorn, Mr. Drucker argued that "very detailed instructions" are required to preserve the quality (flavor) of the coffee extract, which Zorn allegedly does not provide (Ex. 8, p. 37). Such "detailed instructions" are not, however, provided by Reimus, either in the specification or in the claims. The specification, and the examples, are devoid of any guidance as to how long

precooling should continue to remove unwanted "tars" without also degrading the extract by removing desirable constituents.

Following submission of the amendment, there was a telephone interview between Mr. Drucker and Examiner Greenstein. As a result, independent claim 1 was cancelled by the examiner and replaced by claim 13 (which became claim 1 of the '302 patent). Claims 5 and 12 were made dependent from claim 13 (and became claims 2 and 3 of the '302 patent). Claim 13 was limited to coffee extract, but continued to specify a solids content range of 10 to 40% and a temperature range of 32° to 45°F. A new clause was added to claim 13:

> . . . storing said liquid extract in said temperature range [32°-45° F.] until sufficient precipitation occurs without substantial adverse flavor effect.

(Ex. 8, p. 40.)

The Patent Office issued its Notice of Allowance and Issue Fee Due on March 14, 1968.

2. THE REIMUS II APPLICATION (The '129 Patent)

On September 27, 1968 Struthers filed the Reimus II application.[29] Reimus II claimed a 45° to 80°F. extract cooling range -- the temperature range Struthers had given up during the prosecution of the '302 patent by cancelling claim 6 (which claimed a range of 32° to 80°F.) and amending to insert a 32° to 45°F. range in all of the claims.

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29. Before issuance of the '302 patent, Struthers had filed Reimus application Serial No. 718,510 on April 3, 1968. It (Footnote #29 cont.,) issued as patent 3,432,308, which claims tea and is not in suit. The Reimus II application claimed "priority" of Serial No. 718,510 and the Reimus I application.

Struthers interviewed the examiner before he had acted in the Reimus II application. There was no official action and, as a result, the file wrapper of the '129 patent does not contain the examiner's objections and rejections. Neither does the record reflect how the claim amendments Struthers made following the interview (Ex. 9, pp. 20-21) were thought to establish patentability and overcome the prior art. The remarks accompanying the amendment provide only the statement that "the subject application was discussed" at the interview (Ex. 9, p. 21)

Struthers filed, concurrently with the amendment, a "Petition to Make Special" (Ex. 9, p. 22) seeking expedited issuance of the patent. Within a month of receipt of the petition in the examining group the examiner made several additional changes to the claims and

allowed them (Ex. 9, p. 27) -- following an ex parte telephone interview. The official record contains no written explanation of how the amended claims were thought to be patentable or distinguish over the prior art.

The file wrapper of the '129 patent does not reflect the business which was transacted during Struthers' ex parte negotiations with the examiner. Six prior art patents and the Sivetz text were apparently considered by the examiner (Ex. 9, p. 29), but it is impossible to tell what representations were made by Struthers to secure allowance of the claims over that prior art.

Following the first interview Struthers submitted a terminal disclaimer, executed by Mr. Drucker in his capacity as Vice President of counterdefendant Struthers Scientific.

It gave up that part of the 17-year term of the '129 patent which extended beyond the expiration date of the '302 patent.

The Reimus II application issued as the '129 patent on June 10, 1969.

3. THE REIMUS III APPLICATION (The '353 Patent)

The "Reimus III" application is, in reality, two applications, contained in a single file wrapper ("Reimus I and "Reimus III-B"). Rather than completing prosecution of the first application (Reimus III-A), a so-called "streamlined continuation" application (Reimus III-B) was filed. The III-B application used the specification and declaration of the first application, hence the file wrapper of the first application was transferred to and is contained in the file wrapper of the second application.

On the same day Struthers filed its

Reimus II application for the '129 patent it also filed the Reimus III-A application (Serial No. 763,217; Ex. 10; face of file wrapper appears at Ex. 10, p. 3). Whereas the '302 patent claimed a temperature range of 32° to 45°F. and Reimus II claimed 45° to 80°F., Reimus III-A claimed a temperature of 32°F. down to the point at which ice begins to form in the extract (Ex. 10, p. 16).

As in Reimus II, Struthers interviewed the examiner on Reimus III-A before the examiner had acted on the case and then submitted an amendment changing the claims without revealing the negotiations which occurred at the ex parte interview (Ex. 10, p. 20). Thereafter, a terminal disclaimer over the '302 patent was submitted (Ex. 10, p. 26), along with a petition to make special (i.e., to accelerate issuance) (Ex. 10, p. 23). Those papers were filed

the same day as the parallel papers in Reimus II.

The examiner issued an action rejecting the new claims (Ex. 10, p. 29). All the claims were rejected under § 112, and they were also rejected under § 103 over portions of the 1963 Sivetz text (Tab L), which teaches that freeze concentration coagulates tarry substances from coffee extract, and also teaches the expedient of settling to remove "tars".

The examiner also cited Cottle patent 3,362,178 (Tab J), filed 1964, which describes cooling an aqueous food or beverage to precipitate insolubles which form at a temperature near the ice-forming temperature, removing the insolubles, and then freeze concentrating the insoluble-free mixture (col. 2, lines 26-32). Cottle also teaches cooling the mixture to form a minor portion of ice crystals in the mixture along with the

precipitate (col. 2, lines 41-52).

Faced with that art, Struthers gave up trying to claim cooling to a temperature between 32°F. and the ice point. Struthers no longer pressed for rapid issuance of a patent; nor did it reply to the official action. Instead, Struthers converted the III-A application into a new, "streamlined continuation" (Application Serial No. 828,419 filed May 12, 1969; Reimus III-B; Ex. 10 at p. 33).

The claims of Reimus III-B (Ex. 10, pp. 34-36) specified a temperature range of 36° to 80°F. (see claim 1, line 6) or, in the case of dependent claim 3, 36° to 45°F.

The examiner pointed out in his first action that there was inconsistency between what was formerly being claimed and what was currently being claimed (Ex. 10, p. 38).

The claims of Reimus III-B

essentially blanketed the '302 and '129 patents:

'302 patent:	32° to 45°F.
'129 patent:	45° to 80°F.
Reimus III-B	36° to 80°F.[30]

The examiner did not reject the claims for double patenting in the first official action, but they were rejected for double patenting over the '302 and '129 patents in the second action (Ex. 10, p. 47). In response, Mr. Drucker submitted a terminal disclaimer as to both prior patents (Ex. 10, p. 54).

In his first action, Examiner Greenstein rejected all claims of Reimus III-B over the 1963 Sivetz Coffee Processing Technology text (Tab L) in

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30. The Reimus specification does not disclose or suggest that 36° has any significance. 36° to 80°F. merely happens to be a range identified at the end of Example 2, along with an extract solids range of 12 to 32% (Ex. 10, p. 15).

view of the Cottle patent 3,362,178, filed January, 1964 (Tab J), and either the 1964 Svanoe Canadian patent 699,247 (Tab K), or the McKay patent 3,216,833, filed March, 1962 (Tab H). After pointing out the pertinence of the cited art, the examiner concluded, "it is considered that freeze concentrating coffee extract in the manner claimed herein would be fairly suggested by the cited references" (Ex. 10, pp. 38-39).

No changes to the claims were made in response to the examiner's rejections. Instead, Mr. Drucker argued (Ex. 10, p. 43) that the individual references did not completely anticipate the claims; he did not address the combination of references upon which the rejection was based (other than to argue the combination of Sivetz with Svanoe).

The next official action (Ex. 10, p. 46) rejected the claims for double

patenting, as mentioned above, and also cited Struthers' Ganiaris patent 3,283,522, filed November, 1963 (Tab I). All claims were rejected on Ganiaris '522, which shows cooling coffee extract to 50°F., and then to about 35°F., centrifuging the extract, and freeze concentrating the clarified extract, as well as washing the separated ice.

In addition, the examiner took exception to Struthers' designation of the prior applications as divisions of the parent case (no requirement for restriction or division having been made in Reimus I or in intermediate Serial No. 718,510; see 35 U.S.C. § 121). The declaration (oath) of Reimus III-A, which also served as the declaration of the streamlined continuation III-B case, was therefore defective; and the examiner demanded that a new oath (declaration) be provided (Ex. 10, p. 47). In response to

that requirement Mr. Drucker represented that a new supplemental oath would be filed upon indication of allowable claims (Ex. 10, p. 50). In fact, however, no new oath or declaration was ever provided.

In response to the rejection over Ganiaris '522, Mr. Drucker amended to change the 10 to 30% solids content range recited in the claims to read 24 to 32%, and argued that this change rendered the claims patentable because Ganiaris allegedly showed an initial extract concentration of only 10 to 13.4% solids (Ex. 10, p. 50). The initial extract solids content is expressly stated in the Ganiaris patent to be "purely exemplary" (Tab I, at col. 6, line 55), and none of the '522 patent claims is limited to any particular extract solids content.

The examiner thereupon entered a FINAL rejection. He stated there was no support in the application for the newly

claimed range of 24 to 32% solids (Ex. 10, p. 53). All claims were again rejected on prior art, the examiner saying:

> The [Ganiaris '522] reference teaches that his feed is a '10% solution of roasted coffee bean extract in water', Sivetz (p, 481, Volume 1, lines 1-5) [Tab L] is relied upon to show that tars and waxes are removed from coffee extracts upon centrifugation. When the feed extract of Ganiaris is cooled in pre-cooler 12 from 120°F to 50°F and cooler 23 down to 35°F, tars and waxes are inherently formed especially in view of the temperature and are removed from solution when the cooled feed is passed to the centrifuges for washing the ice therein. Liquid removed from the centrifuge is thus free of tars and waxes and sent to the crystallizers for freeze concentration.

No written reply to the final rejection (dated January 4, 1971) and no written request for reconsideration was ever filed by Struthers, even though an extension of time to May 4, 1971 for response was secured (Ex. 10, p. 61). Mr. Drucker did have an oral telephone

interview with the examiner, wherein certain changes "were approved" (Ex. 10, p. 58).

The record does not reflect why or how the "approved changes" led the examiner to regard the claims as allowable. The only change in the claims was that the solid content range of 24 to 32% was changed to 24% (Ex. 10, p. 58).

The list of references cited (Ex. 10, pp. 59-60) includes several items of prior art which were not cited of record in the prosecution of the prior cases. The file wrapper does not reflect whether these were discussed privately or what representations were made by Struthers concerning them.

The '353 patent issued on January 4, 1972.

4. THE REIMUS IV APPLICATION
(The '723 Patent)

The Reimus IV application (Ex. 11) was filed September 30, 1968, five months subsequent to issuance of the '302 patent and three days after the Reimus and III-A applications were filed. In Reimus IV, Struthers for the first time presented claims to apparatus. Reimus IV is designated a "division" of intermediate Serial No. 718,510, which is, in turn, designated a "division" of Reimus I. No requirement for division or restriction was made during prosecution of those applications. Reimus IV contains disclosure not found in the prior applications. It also omits parts of the earlier disclosure (e.g., the examples). The prior applications did not describe any apparatus as forming part of Reimus' invention.

By a preliminary amendment before

action, received in the Patent Office mail room on May 12, 1969 (Ex. 11, p. 20), claims 11 and 12 were added to the application. The date when that amendment was received in the examining group does not appear from the file, and those claims were not mentioned in the first official action mailed June 12, 1969 (Ex. 11, p. 22), The action was evidently written by the examiner on or about April 30, 1969, the date which appears in handwriting on the Notice of References cited (Ex. 11, p. 24).

A handwritten note on the preliminary amendment (Ex. 11, p. 21) reflects that the attorney was in for an interview on June 20, 1969 and that claims 11 and 12 were considered. That interview was never acknowledged by Struthers, nor did Struthers make of record the discussion which was had.

The first official action objected to

the drawing as inadequate and also rejected the claims as unpatentable over prior art. Claim 1 was rejected under 35 U.S.C. § 102 as fully met by either of two prior art patents, the 1924 Zorn patent 1,507,410 (Tab A), or the 1927 Zorn patent 1,636,890 (Tab B). The remaining claims were rejected under § 103 over the earlier Zorn patent (Ex. 11, p. 23).

Struthers responded by cancelling eight claims, amending each of the remaining claims and adding a new claim. The accompanying remarks contained only a general allegation that the claims were patentable over Zorn, but Struthers did not specifically point out how the language of the claims patentably distinguished them from the reference, and did not point out the patentable novelty which the claims were thought to present in view of the state of the art

disclosed by the cited reference, and did not point out how the amendments avoided the reference. Nevertheless, the examiner purported to allow the claims -following a telephone interview (Ex. 11, pp. 29-30). In addition, the examiner entered numerous changes and additions to the specification, and even more changes and additions to the claims, all at the request of the attorney during the telephone interview. Once again, the reasons presented as warranting favorable action were not filed, and it was not pointed out in writing how the amendment to the claims avoided the prior art.

The '723 patent issued on October 28, 1969.

C. Prior Sale -- Nestle's and Struthers' Contentions

1. Facts Relied upon by Struthers

Struthers relies upon the following paragraphs from Ganiaris' affidavit to substantiate its assertion that there are factual issues which preclude summary judgment of invalidity of the four Reimus patents by reason of prior sale or use.

42. The sale contract dated August 12, 1964 did not incorporate any equipment relating to dewaxing.

43. In March 1965, General Foods agreed to permit the installation of such equipment in the Struthers' freeze concentration plant and share the cost with Struthers. Prior to January 1965, General Foods did not even appreciate that a dewaxing operation was necessary.

44. To the best of my knowledge,

dewaxing disclosures were not offered for sale to General Foods before January or February, 1965.

2. Facts Relied upon by Nestle

In support of its prior sale contention Nestle relies in part upon the factual material adduced on the same issue as it related to the Muller patents (Part II of this opinion). This dealt with Struthers' publication, offering for sale and sale to General Foods of Struthers' "Frecon" freeze concentration process. In addition, Struthers' supplemental answer to NestIe Interrogatory 50 asserts that General Foods infringed Reimus '302, '129 and '723 patents through use of freeze concentration equipment and systems sold by Struthers to General Foods in 1964 and 1965, and used by General Foods allegedly

in excess of the scope of its license from Struthers.

Nestle also relies upon other answers by Struthers to Nestle interrogatories, deposition testimony of Struthers' employees and memoranda prepared by Struthers' employees. They will be described below.

Struthers' answer to General Foods Interrogatory 6 relied on activities in May, 1964 to establish a date of invention for the '302 patent (DDX 38, Tab A, pp. 8-10). That was the time when Struthers' mobile flatcar FreCon unit was used at General Foods' Winterhaven plant to freeze concentrate coffee extract. Anthony Saporito, Reimus' co-patentee on each of the four patents here under consideration, was present on that occasion. He later testified that when "tars and waxes" were found plugging the centrifuge screens upon processing coffee

extract in the flatcar FreCon unit at Winterhaven, cheesecloth was obtained and used to filter out the precipitate from the coffee solution prior to freeze concentration. Mr. Saporito's testimony continued:

> To my knowledge, when we opened up that centrifuge and found the tars, I told Mr. Reimus we couldn't operate with the tars. I believe Mr. Reimus talked to Maxwell House representatives, and then what transpired after that, the conversations or anything of that nature, I don't know about.
>
> But eventually it was decided to pass the coffee through the cheesecloth.
>
> Q. Do [sic] you participate in the origination of that concept?
>
> A. Just on the manual labor part.
>
> Q. Was it you that suggested the use of the cheesecloth to Mr. Reimus?
>
> A. No.
>
> Q. Were you present when the decision was made to use or to try to obtain cheesecloth?
>
> A. No. I was in the vicinity, of course, but I was working, I had

duties to perform.

Q. Do you know who suggested the use of cheesecloth to screen the coffee extract of any foreign [sic] material?

A. I don't know who suggested it.

* * *

Q. You were just told that a decision had been made to try to use cheesecloth in order to rectify the problem of plugging. Is that correct?

A. I don't know whether I was told or not, but what I remember is Mr. Jacobs [of General Foods] coming down with an armful of cheesecloth and we started to filter.

Q. And that was it plain and simple?

A. That is as far as I am concerned.

Q. No one told you why the cheesecloth was going to be used?

A. Well, it was obvious -- it was for obvious reasons, to remove the tars or waxes that formed.

Q. Had you ever seen anyone use cheesecloth in Warren, Pennsylvania [Struthers' laboratory] in 1963?

A. Not in 1963, no.

Q. When was the first time you had ever seen cheesecloth used? May we agree that this was the first time?

A. This was the first time, yes.

(Saporito Transcript, pp. 432-433; on file as DDX 16, Tab 8.)

Robert Hedrick, then head of Struthers' Warren laboratories and the immediate supervisor of Reimus and Saporito, was asked about that episode by Struthers' patent counsel. In his April 20, 1965 response Hedrick wrote:

> When wax was first encountered, it was obvious to all concerned that cooling the coffee and filtering or centrifuging would remove the wax, * * * . I would say that last summer [1964] when we ran the coffee here in the Warren lab that it was obvious to both Maxwell House and SSIC [Struthers] engineers that cooling the feed would remove the wax; but that no one knew how cold it had to be, how long it had to be held, or if it would continue to precipitate in the crystallizer.
>
> * * *
>
> This is the story I have. I realize it is not very helpful.
>
> [DDX 16, Tab 14; emphasis supplied.]

Mr. Hedrick also testified in the General Foods litigation concerning his

memorandum:

Q. In other words it was obvious that these precipitated insolubles could be separated from the solution; is that correct?

A. Yes.

Q. By filtering and centrifuge?

A. Yes.

Q. And this was obvious to all, according to your statement?

A. Yes.

Q. Whom do you mean by 'all'?

A. The various people concerned with the experimental run.

Q. Who would that be, Mr. Reimus, Mr. Saporito?

A. Mr. Muller, myself.

Q. Mr. Muller?

A. Yes.

Q. Anyone else?

A. It would be -- it would just have been obvious to anyone who saw the operation.

(DDX 16, Tab 8, pp. 5381-5382.)

Struthers' answer to General Foods' Interrogatory 6 (sworn to by Mr. Drucker

in his capacity as an officer of Struthers, DDX 38, Tab A) describes the use of Struthers' flatcar "FreCon" unit at General Foods' Winterhaven plant to freeze concentrate coffee extract in May, 1964, as follows:

> (i) Coffee extract was cooled in 40 gallon fibre packs in a refrigerated car. These were too heavy to lift, each one containing about 30 gallons of coffee extract and thus weighing about 300 pounds. Mr. Saporito removed the cooled extract from each fibre pack with a bucket and poured the contents of the bucket onto cheese cloth stretched over the top of a drum having a capacity of about 30 to 40 gallons, thereby filtering out precipitated insoluble material from the cooled coffee extract. When the level of each pack dropped sufficiently so that the pack was light enough to lift, Mr. Saporito, with the help of some others present, poured the remaining contents of the pack onto the cheese cloth thereby filtering out precipitated insoluble material from the remainder of the cooled coffee extract. The thus dewaxed coffee extract was then freeze concentrated in the Struthers Mobile FreCon plant at Winterhaven, Florida. Witnesses present were Messrs. Simon, Clyne, Jacobs and Pflugger [sic] of GF and possibly,

Reid Sutherland, a Birdseye representative.

Martin Gotterman, a General Foods employee, described the operation of Struthers' mobile flatcar freeze concentration plant. In a memorandum dated September 23, 1964, he wrote:

> To operate the system, it was necessary to prefilter both IMH and IY extracts to remove waxy solids which would blind the centrifuge screen, ultimately causing it to tear.
>
> (Item 19, Struthers' Production Documents, Group I.)

As a result of this experience, he recommended in the memorandum (p. 5) that filtering means be installed on the coffee extract feed lines of the FreCon system General Foods had by that time contracted to purchase from Struthers.

The foregoing (most of which constitutes sworn statements of Struthers' officers or employees) shows

the untruthfulness of Ganiaris' statement contained in the affidavit opposing the present motion that "Prior to January 1965, General Foods did not even appreciate that a dewaxing operation was necessary."

D. Abandonment of the Four Reimus Applications

Relying upon 35 U.S.C. § 133 as implemented by Patent Office Rule § 1.135 (prosecution of an application to save it from abandonment "must include such complete and proper action as the condition of the case may require"), Nestle urges that all four Reimus patents must be deemed to have been abandoned.

Nestle can point to numerous instances in the prosecution of each of these applications where Struthers did not take such complete and proper action

as the condition of the case required within the appropriate time limits; in fact, Struthers never took complete and proper action on those occasions because the examiner was willing to accept a lesser response.

The deficiencies included repeated interviews with the examiner after office actions without the filing of written statements of the reasons presented to the examiner as warranting favorable action, and repeated failures to point out, in response to an examiner's action, how the language of the claims patentably distinguishes them from the references.

Notwithstanding these obvious failures on Struthers' part to respond to official actions of the Patent Office in the manner required by the Patent Office Rules, the Patent Office itself accepted Struthers' responses as sufficient to justify the issuance of the patents in

question. In these circumstances, for the reasons set forth in Part III D of this opinion dealing with the contention that the '295 patent was abandoned as a matter of law, I shall deny Nestle's motion for summary judgment of invalidity of the Reimus patents on this ground.

E. Invalidity of the '129 and '353 Patents for Claiming Subject Matter Previously Given Up

Claim 1 of the Reimus I application (upon which the '302 patent issued) contained no limitation as to the solids content of the extract to be treated or the temperature during "dewaxing" (Ex. 8, p. 15). Dependent claim 6 specified a "dewaxing" temperature of 32° to 80°F. In response to rejection on prior art made in the first official action, Struthers amended claim 1 to insert an extract solids content of 10 to 40% and a

temperature range of 32° to 45°F. Claim 6 was cancelled.

It was urged in Mr. Drucker's accompanying remarks that both the inserted solids content range and the inserted temperature range distinguished from the prior art over which the claims had been rejected. Claim 1 was subsequently rewritten as application claim 13 (which became claim 1 of the '302 patent), and the solids content and temperature ranges were carried over into that claim.

On September 27, 1968 Struthers filed its Reimus II application as a division of the Reimus I application (which had issued as the '302 patent the previous June). Reimus II claimed a 45° to 80°F. extract cooling range -- the exact temperature range Struthers had given up during the prosecution of the '302 patent as described above.

The Reimus III-A application was also filed on September 27, 1968. Its prosecution was aborted as described in Part B(3) of this opinion and the Reimus III-B application was filed as a continuation of Reimus III-A. Its claims specified a temperature range of 36° to 80°F. or, in the case of dependent claim 3, 36° to 45°F. The application purported to be a division of the Reimus I application. Thus it, too, claimed a temperature range given up in the Reimus I prosecution.[31]

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31. Nestle notes that the filing of the Reimus II and Reimus III-A applications occurred about two weeks after Struthers learned, through discovery in the General Foods litigation, that General Foods' extract cooling temperature was above the 32° to 45°F. range specified in the '302 patent, thus providing Struthers with a motive to regain the 32° to 80°F. range it had given up in the prosecution of the Reimus I application. This is one of a number of instances in which Nestle relates Struthers' steps in the prosecution of the various applications pertinent to the present action to the litigation between General Foods and

(Footnote #31 cont.,)
Struthers. Such relationship might be pertinent to some issues in this case, but I do not think they bear upon the resolution of the summary judgment motion.

The Supreme Court stated, in Schriber-Schroth Co. v. Cleveland Trust Co., 311 U.S. 211, 220-222 (1940):

> It is a rule of patent construction consistently observed that a claim in a patent as allowed must be read and interpreted with reference to claims that have been cancelled or rejected, and the claims allowed cannot by construction be read to cover what was thus eliminated from the patent. [Citations omitted.] The patentee may not, by resort to the doctrine of equivalents, give to an allowed claim a scope which it might have had without the amendments, the cancellation of which amounts to a disclaimer. [Citations omitted.] The injurious consequences to the public and to inventors and patent applicants if patentees were thus permitted to revive cancelled or rejected claims and restore them to their patents are manifest. [Citations omitted.]
>
> * * *
>
> * * * But in any case the Patentee, having acquiesced in their rejection, is no longer free to gain the supposed advantage of the rejected claims by a construction of the

> allowed claims as equivalent to them. [Citation omitted.]

That principle of patent law applies equally whether the patentee attempts to recapture that which he has given up to secure a patent by contending that the claims he secured are entitled to a broadened construction, or by obtaining a second patent on the subject matter he gave up. C-Thru Products, Inc. v. Uniflex, Inc., 262 F. Supp. 213 (E.D.N.Y. 1966), aff'd on other grounds, 397 F.2d 952 (2d Cir. 1968).

In the C-Thru case, as here, the broadest claim of the original application did not recite a certain feature, which was subsequently inserted by amendment to overcome a rejection on prior art. The Court pointed out:

> Under the doctrine of file wrapper estoppel, these claims cannot be enlarged to cover those which were previously eliminated from the patent by the amendment. As explained by Judge Learned Hand in Keith v.

> Charles E. Hires Co., 2 Cir. 1940, 116 F. 2d. 46, 47 'The theory of the "estoppel" as it is called, is that, by assenting to the cancellation of the claim and by amending it, the applicant has abandoned it as it stood.' [Citations omitted.] Plaintiffs are, therefore, estopped from asserting that the patentability of the handle bag rests upon any other feature. [Citation omitted.]"
>
> (262 F. Supp. at 216-217.)

The patentee in C-Thru, like Struthers here, then proceeded to obtain a second patent claiming the subject matter he had given up during the prosecution of the first application (and, also like Struthers, obtained the second patent by filing a terminal disclaimer over the first patent). The Court stated:

> Consequently, the scope of the single claim in the second Laguerre patent was more encompassing than any of the four claims in the first Laguerre patent. Thus the file wrapper estoppel applicable to the first Laguerre patent as to the criticality of the location of the fasteners was avoided by the issuance of a patent upon the second Laguerre application.
>
> It is fundamental that a patentee, in

> seeking a subcombination patent, cannot enlarge the scope of the parent patent by omitting a restriction contained therein and thus avoid file wrapper estoppel, [Citations omitted.] The rejection by the Examiner of the second Laguerre application, however, was not predicated upon file wrapper estoppel but upon the ground of double patenting. The Examiner withdrew this rejection upon the filing of a terminal disclaimer. Congress never intended, by the enactment of 35 U.S.C.A. §253, to permit the use of a terminal disclaimer for the purpose of avoiding file wrapper estoppel. Only when the real objection to granting the second application is an extension of a monopoly is such a terminal disclaimer proper. But double patenting and file wrapper estoppel must not be confused, since a terminal disclaimer may under certain circumstances be employed to avoid the objection of the former but never the effect of the latter. Sterling Varnish Co. v. Louis Allis Co., E.D. Wis. 1957, 149 F.Supp. 826; Application of Robeson, 1964, 331 F.2d 610, 51 CCPA 1271.
>
> (262 F. Supp. at 217.)

Summary judgment of invalidity of the second Laguerre patent was therefore granted. See also Jamesbury Corporation v. United States, 518 F.2d 1384, 1397-8

(Ct. Cl. 1975).

Moreover, even a timely filed reissue application under 35 U.S.C. § 251 would have been to no avail to Struthers; for it is well established that one cannot recapture by reissue the subject matter which was given up during prosecution of the original patent. See Dobson v. Lees, 137 U.S. 258, 265 (1890):

> Hence the reissue cannot be permitted to enlarge the claims of the original patent by including matter once intentionally omitted. Acquiescence in the rejection of a claim; its withdrawal by amendment, either to save the application or to escape an interference; the acceptance of a patent containing limitations imposed by the patent office, which narrow the scope of the invention as at first described and claimed; are instances of such omission.

See also Shepard v. Carrigan, 116 U.S. 593 (1886):

> Where an applicant for a patent to cover a new combination is compelled by the rejection of his application by the patent office to narrow his

> claim by the introduction of a new element, he cannot after the issue of the patent broaden his claim by dropping the element which he was compelled to include in order to secure his patent.
>
> (116 U.S. at 597.)
>
> If an applicant, in order to get his patent, accepts one with a narrower claim than that contained in his original application he is bound by it. If dissatisfied with the decision rejecting his application, he should pursue his remedy by appeal. Under the circumstances of this case, the inventor could not even get a reissue based on the broader claim which she had abandoned. [Citation omitted.] Much less can she, in a suit brought to restrain its infringement, enlarge her patent by argument, so as to cover elements not falling within its terms, and which she had explicitly abandoned.
>
> (116 U.S. at 598.)

The same principle was enunciated by the Court of Appeals for this Circuit in AMP Inc. v. Burndy Corp., 332 F.2d 236 (3d Cir. 1964):

> Moreover, under the doctrine of file wrapper estoppel, the patentee, having acceded to the rejection of his original claims as lacking invention over Smith and having

> amended his claims to include relative resistence to cold plastic flow as a definitive characteristic distinguishing his device from Smith, cannot now be heard to claim patentable novelty in any other disclosure of his original patent or the reissue based upon it. [Citation omitted.]
>
> (332 F.2d at 238.)
>
> We conclude, therefore, that the original Watts patent * * * was invalid for want of invention. It necessarily follows that the re-issue patent in suit is also invalid, since it cannot avoid the definitive and essential limitations upon which the claim of invention over Smith was predicated in the original patent.
>
> (332 F.2d at 239.)

Struthers advances several arguments to counter the seemingly necessary conclusion that it could not recapture in the '129 and '353 patents that which it had given up in order to avoid prior art in the prosecution of the '302 patent.

First, Struthers urges that giving up a claim is a matter of intent, which raises a factual issue. That contention is unsound. File wrapper estoppel does

not depend upon state of mind. Certain consequences flow as a matter of law from certain actions of the applicant. Here it cannot be disputed that in prosecuting the '302 patent application Struthers did things which bring the doctrine of file wrapper estoppel into play.

Second, Struthers urges that the '129 and '353 patents stem from the '302 patent as divisions or continuations and are, therefore, entitled to the filing date of the '302 patent. The logic of this contention escapes me. True, if '129 and '353 are proper divisions or continuations of '302 they are entitled to a December 2, 1965 filing date; but file wrapper estoppel is applicable whether one is dealing with the same or different patents, parent or child patents.

Struthers cites Crown Cork & Seal Co., Inc. v. Ferdinand Gutmann, Inc., 304

U.S. 159 (1938), in support of its position. That case, however, is not in point. It dealt with, among other things, a true abandonment question, whether an applicant who eliminated a disclosure in an application not to overcome a prior art rejection but in order to prosecute it in a divisional application intended to abandon the claim. Since the case did not deal with the cancellation of a portion of a claim in order to meet an examiner's prior art rejection, it did not involve a file wrapper estoppel situation.

A patentee connot recapture the subject matter which he gave up during prosecution in order to secure the allowance of his patent. The applicant has the right to challenge the rejection, and to appeal it to the Board of Appeals and thence to the Courts, if he disagrees with the rejection; but once having

acquiesced in the rejection and having amended the claims to overcome it, he is bound by that acquiescence. Exhibit Supply Co. v. Ace Patents Corp., 315 U.S. 126 (1942).

Nestle is entitled to summary judgment of invalidity on the ground that the '129 and '353 patents seek to recapture all or part of the subject matter given up during prosecution of the application for the '302 patent.

F. Invalidity by Reason of Prior Sale

If valid, the '302, '129 and '353 patents are entitled to a filing date of December 2, 1965, the date when the application for the parent '302 patent was filed. Nestle urges that the '723 apparatus patent is not entitled to a December 2, 1965 filing date, but for the

purposes of this Part IV (F) I am assuming that it is entitled to the benefit of that date. In order to sustain its § 102(b) prior sale or use contention, Nestle must show that there is no issue of fact as to a sale or use of a device or process substantially identical to those claimed in the Reimus patents, and that such sale or use was more than one year prior to December 2, 1965, i.e., prior to December 2, 1964.

Ganiaris' statement contained in his affidavit in opposition to the motion to the effect that "prior to January 1965, General Foods did not even appreciate that a dewaxing operation was necessary" is patently false. Struthers' own officers have stated otherwise under oath and in memoranda (see Part IV(C) of this opinion). In May of 1964, when Struthers was demonstrating its "FreCon" unit to

General Foods, it became obvious that it was necessary to remove the tars which plugged the centrifuge during the freeze concentration process. Mr. Hedrick and Mr. Drucker, both officers of Struthers, have stated under oath that removal of the tars was accomplished at that time by cooling the extract and then filtering it through cheesecloth to remove the wax before freeze concentrating. This, of course, was the essence of the Reimus patents. Ganiaris' affidavit cannot create a factual issue as to these events by stating generally that prior to January, 1965 General Foods did not appreciate that a dewaxing operation was necessary. Some of the other data upon which Nestle relies to establish prior sale or use encompasses a period starting before and ending after the critical date -- December 2, 1964 -- and, therefore, it cannot be relied upon to establish this

defense. Further, it must be assumed that Ganiaris' other sworn statements are true, namely, that the August 12, 1964 sales contract with General Foods did not incorporate dewaxing equipment and that dewaxing disclosures were not offered for sale to General Foods before January or February, 1965.

The question becomes whether the indisputable facts as to the devising and use of dewaxing procedures in May, 1964, when Struthers was demonstrating its FreCon unit, and General Foods' subsequent (pre-December 2, 1964) decision to use such procedures in connection with the freeze concentration equipment purchased from Struthers, is an invalidating sale or use under § 102(b).

Struthers' answer to General Foods Interrogatory 6 (sworn to by Mr. Drucker in his capacity as an officer of Struthers, DDX 38, Tab A) describes the

event as follows:

> (i) Coffee extract was cooled in 40 gallon fibre packs in a refrigerated car. These were too heavy to lift, each one containing about 30 gallons of coffee extract and thus weighing about 300 pounds. Mr. Saporito removed the cooled extract from each fibre pack with a bucket and poured the contents of the bucket onto cheesecloth stretched over the top of a drum having a capacity of about 30 to 40 gallons, thereby filtering out precipitated insoluble material from the cooled coffee extract. When the level of each pack dropped sufficiently so that the pack was light enough to lift, Mr. Saporito, with the help of some others present, poured the remaining contents of the pack onto the cheese cloth thereby filtering out precipitated insoluble material from the remainder of the cooled coffee extract. The thus dewaxed coffee extract was then freeze concentrated in the Struthers Mobile FreCon plant at Winterhaven, Florida. Witnesses present were Messrs. Simon, Clyne, Jacobs and Pflugger [sic] of GF and possibly Reid Sutherland, a Birdseye representative.

Moreover, Martin Gottesman, a General Foods employee, described the operation of Struthers' mobile flatcar freeze concentration plant. In a memorandum dated September 23, 1964, he wrote:

> To operate the system, it was necessary to prefilter both IMH and IY extracts to remove waxy solids which would blind the centrifuge screen, ultimately causing it to tear.
>
> (Item 19, Struthers' Production Documents, Group I.)

As a result of this experience he recommended in the memorandum (p. 5) that filtering means be installed on the coffee extract feed lines of the FreCon system General Foods had by that time contracted to purchase from Struthers. Filtering is merely one method of removing insoluble precipitate material from liquid extract claimed in the Reimus patents. The '129 patent, col. 4, lines 49-51, states that "pressure filtration techniques * * * well known to the art, may be employed to separate the extract from the precipitate". The Reimus expedient was an obvious adjunct to what Struthers acknowledges was on sale and

had been sold. The 36° to 80°F. temperature range specified in the claims of the '353 patent (which was not in suit against General Foods) reads on any temperature which would infringe the '129 patent, and most of the range of the '302 patent. The recitation of coffee extract having 24% solids in the '353 claims (a value within the range claimed in the '302 and '129 patents) does not save that patent from invalidity; see Timely Products Corp. v. Arron, 523 F.2d 288, 302 (2d Cir. 1975):

> Complete readability of the claim on the thing offered [for sale] is not required because whatever is published (or on sale) more than one year prior to the filing of a patent application becomes part of the prior art over which the claim must be patentable. [Citation omitted.]

Consequently, I conclude that Nestle is entitled to summary judgment of invalidity of the four Reimus patents under 35 U.S.C. § 102(b) on the grounds

of prior offer of sale, sale or use.

G. Invalidity under § 112

Nestle asserts numerous instances in which the four Reimus patents fail to meet the three requirements of the first paragraph of 35 U.S.C. § 112 -- written descriptions, enablement and best mode. Application of DiLeone, 436 F.2d 1404 (CCPA 1971).

According to the statement of the alleged invention contained in the patents, the coffee extract is chilled to near the freezing point so that waxes, tars and gums which are soluble in the hot extract are precipitated therefrom (Ex. 8, p. 8). The specification also warns that in some coffee extracts continued exposure to low temperature will also cause formation of a non-waxy particulate precipitate which should be

avoided, because exposure sufficient to cause that precipitate is tantamount to degradation of the coffee extract (Ex. 8, p. 9).

The Reimus specifications do not, however, describe how one is to know whether a given coffee extract should be subjected to the "dewaxing" treatment they describe, and Struthers has represented that not all extracts require "dewaxing" or should receive such treatment.

The Reimus applications do not state what temperatures should be used, or avoided, in "dewaxing".

The Reimus specifications likewise do not specify the duration of the "dewaxing" treatment. The Reimus teaching is that the extract may be held at the low temperature "for from a few seconds to several or many hours" before the waxes, tars and gums are removed (Ex.

8, p. 9). That exceptionally broad teaching furnishes no guidance, particularly as the specification further warns against exposure for a long enough time to precipitate desirable materials and degrade the extract.

In addition, the specification does not provide guidance as to how one may differentiate between the two types of precipitate, or how one may recognize the precipitate which is said to degrade the extract (it is referred to only as a "non-waxy particulate precipitate").

Nestle offers other examples which I need not recite of the manner in which it asserts the Reimus patents do not meet the requirements of the first paragraph of § 112.

Nestle also asserts that the Reimus patents fail to meet the requirements of the second paragraph of § 112.

I have concluded, however, that the

entire subject matter of the Reimus patents involves very simple (and I later find obvious) concepts. The skill in the applicable art is very high. (Note how easily the persons working on the "FreCon" unit in May, 1964, were able to solve the problem of gummy, waxy material clogging the centrifuge during the freeze concentration process.) There can be no doubt that one skilled in the art (and also one having only negligible skill in the art) can adjust the various factors of temperature, concentration of extract, and holding time to obtain concentrated coffee extract having the desired flavor. As Ganiaris stated in paragraph 26 of his affidavit, "It is common practice in the industry to control every step of the coffee manufacturing process by 'empirical' (meaning, usually, panel taste) tests, whereby one can establish the quantity of precipitate that affects

taste for a specific extract." Given the ease with which those skilled in the art can fill the voids in the Reimus patents, it cannot be said that these voids require invalidation of the patents under 35 U.S.C. § 112. Rengo Co. Ltd. v. Molins Machine Company, Inc., supra. The same consideration, however, has an important bearing on the question of obviousness of the Reimus patents.

H. Invalidity of the Reimus Patents over Prior Art - Obviousness

Nestle urges invalidity of the four Reimus patents both on § 102(b) grounds and § 103 grounds. Since I have concluded that Nestle is entitled to summary judgment of invalidity on the basis of obviousness, I have not ruled on the § 102(b) prior published art contentions. The laws relating to the

criteria for determining obviousness, the presumption of validity, and the appropriateness of summary judgment are set forth in Part II(E) of this opinion dealing with the Muller patents.

The prior art relevant to all four Reimus patents and the manner in which it anticipates and renders obvious the alleged inventions of the Reimus patents is as follows:

The 1924 Zorn patent 1,507,410 (Tab A) describes a process in which liquid coffee extract is cooled "to a temperature near the freezing point" (p. 2, lines 110-111), filtered to remove the materials thrown into suspension by cooling of the liquid, and then freeze concentrated. Zorn thus discloses the invention described by Reimus, et al., who similarly state that the coffee extract "is first chilled to near the freezing point so that waxes, tars and

gums which are soluble in the hot extract are precipitated therefrom (Ex. 8, p. 8).

Reimus states that "minimum temperatures of 40°F. and below may be employed in the process of this invention". Temperatures within Reimus' preferred 32° to 45°F. range must perforce be "near the freezing point".

Zorn also teaches that the several steps he discloses "should be carried out as rapidly as possible", and that it is preferable "to remove as much of the matter in suspension as possible before concentrating" (p. 2, top of left col.). Zorn's disclosure is equally as good as Reimus' disclosure in respect of duration of exposure to temperatures near the freezing point.

The 1946 Fredrickson patent 2,410,157 (Tab D) also removes waxy substances from coffee extract by cooling, and suggests temperatures of 33° to 34°F., which fall

within the range set forth in the '302 patent.

The 1941 Rolle patent 2,234,063 (Tab C) teaches removing gummy material from tea extract by cooling and filtering off the precipitate that forms upon standing. A temperature of 34° to 40°F. is suggested (p. 4, top of right col.). The Reimus patents state that the problem of precipitation of insoluble materials is not a problem exclusive to coffee extracts alone, but is also encountered in the preparation of other concentrated extracts of comestible materials, and acknowledge that the process of the invention is also applicable to tea, grape juice, apple juice, beer and orange juice. The application for the '302 patent originally claimed treatment of tea as well as coffee. Both the '302 and '353 temperature ranges read upon Rolle's suggested temperatures of 34° to 40°F.

The 1959 Seltzer patent 2,891,865 (Tab F), which was not cited by the Patent Office, also describes cooling a tea extract to precipitate insolubles, which are removed prior to dehydration of the extract. It is stated in column 3 that the extract is cooled preferably below 85°F.; but not below 45°F., in order not to detract appreciably from the desired flavor quality. Holding the extract at such temperatures for about half an hour is usually sufficient, but the extract may be held for a longer time, up to three hours. Excessive removal of solids may lead to an inferior product. Lower temperatures result in precipitation and removal of greater amounts and different proportions of the various ingredients in the extract.

The temperature ranges of the '129 and '353 claims thus read on Seltzer, who also teaches avoidance of flavor

impairment by regulating the time of exposure to the lowered temperature. Claim 6 of the '129 patent, which calls for subsequent "dehydration", also reads on Seltzer's disclosure of drying the extract after removal of precipitate.

These prior art patents demonstrate the lack of novelty and invention in the subject matter described and claimed in the Reimus patents. The principle of cooling an aqueous comestible extract such as coffee extract and holding it at various temperatures within the ranges claimed by Reimus was shown in the art, and available for all to use.

Zorn anticipates both the '302 and '353 patents; the Reimus specifications establish that temperatures below 40°F. are "near the freezing point". The 45° to 80°F. temperature range of the '129 patent also reads on Zorn, 45°F. being within Reimus' preferred temperature

range. The elasticity which is imparted to the claims by the term "about" increases the extent of overlap.

The solids content ranges described in the claims do not save them from invalidity on grounds of obviousness. Zorn is unrestricted in terms of extract solids content, and the Reimus patents do not suggest that the dewaxing expedient is affected by the solids content of the extract. Reimus merely suggests that carrying out the extraction process to the point where high solids contents are achieved may lower the flavor quality of the extract. For this reason, Reimus prefers a range of 10 to 30 percent solids in the extract. The 10 to 40% solids range of the '302 patent and the 10 to 50% solids range claimed in the '129 patent exceed that preferred range, and hence do not define extracts which are preferred for reasons of flavor, as

described by Reimus. The '353 patent does not contain an extract solids range, but, rather, specifies 24% solids, a value inserted into the claims by Examiner's Amendment (Ex. 10, p. 58) without any indication of how or why it might affect patentability. Although 24% is within the range of 10 to 30%, it does not define a preferred flavor range and cannot be linked to Reimus' disclosure of that range. Rather, 24% solids merely happens to be the value set forth in Examples 1 and 2, which do not attribute any significance or advantage to it.

Application of Clinton, et al., 527 F 2d. 1226 (CCPA 1976), was discussed in some detail in Part II(C) of this opinion in connection with the Muller patents dealing with the combination of freeze concentration and freeze drying.

As pointed out there, General Foods filed a patent application in the names

of Clinton, et al. (effective filing date May 5, 1965) which also claimed "dewaxing" of coffee extract:

> 8. The process of claim 1 wherein the coffee extract is chilled to between 33° and 45°F. and held for a period sufficient to cause insoluble sediment to form in the extract and then separating said sediment from the extract prior to freeze concentration.

Following final rejection of the Clinton, et al claims and affirmance of the rejection by the Patent Office Board of Appeals, General Foods appealed to the Court of Customs and Patent Appeals.

The CCPA affirmed the rejection of the "dewaxing" claims in view of Cottle patent 3,362,178 (Tab J), filed January, 1964. Application of Clinton, et al., 527 F.2d 1226, 1228 (CCPA 1976):

> Cottle et al. disclose that freeze concentration of food products and beverages generally may result in the formation of a sediment which can be removed by cooling and

> clarification. Although Cottle et al. do not disclose sediment formation in coffee extract in particular, we think it would have been within the ability of a worker of ordinary skill in the art aware of Cottle et al. to subject a coffee extract to gradual cooling and to remove any resultant sediment prior to freeze concentration.

The CCPA thus ruled that "dewaxing" of coffee extract prior to freeze concentration -- the subject matter of Struthers' four Reimus patents -- is unpatentable for obviousness. The CCPA's ruling was made on the basis of Cottle without considering the prior art, discussed above, which specifically describes "dewaxing" coffee extract.

On the basis of the undisputed facts in the record, I conclude that the Reimus patents are invalid under § 103. The prior art patents discussed above show various temperatures within the various ranges set forth in the Reimus patents. Reimus does not advance the art, or make

any contribution to it. The claims do not define any inventive or patentable advance but, rather, define a subject matter which is obvious in view of the prior art.

The apparatus claimed in the '723 patent is merely that which will carry out the processes described in the prior art. There is nothing novel about any of the apparatus elements; the claims merely conjoin old and known elements in an unpatentable aggregation. The claims are consequently invalid.

For the foregoing reasons Nestle's motion for summary judgment of invalidity of the four Reimus patents on the ground of obviousness will be granted

I. Invalidity for Withholding Information

Nestle's motion for summary judgment on the ground that Struthers failed to

inform the Patent Office that the subject matter of the Reimus patents was on sale and had been sold more than one year prior to the filing dates of the respective applications for the patent will be denied. As in the case of the Muller patents, the factual issues of knowledge and intent must be resolved and this cannot be done on a motion for summary judgment. DeLong Corp. v. Raymond Intern., Inc., 622 F.2d 1135 (3d Cir. 1980).

J. Conclusion

For the reasons set forth above, Nestle's motion for summary judgment of invalidity of the '129 and '353 patents because they claim subject matter given up during prosecution of the application for the '302 patent will be granted. Nestle's motion for summary judgment of invalidity of each of the four Reimus patents on the grounds of obviousness under § 103 and prior offer for sale, sale and use under § 102(b) will be granted.[32]

32. In view of these determinations, it is unnecessary to rule upon Nestle's contention that the '129, '353 and '723 patents are invalid by reason of double patenting.

V. The '126 and '722 Patents

Nestle moved for summary judgment of invalidity and/or unenforceability of Howell patent 3,367,126 (the '126 patent) and Ganiaris patent 3,636,722 (the '722 patent) on the following grounds:

1. The Howell '126 patent is invalid under 35 U.S.C. § 112.

2. The Howell '126 patent is invalid over the prior art.

3. The Howell '126 patent is invalid for prior public use and/or sale.

4. The Ganiaris '722 patent is invalid under 35 U.S.C. § 112.

5. Struthers is precluded from relitigating the subject matter claimed in the '722 patent.[33]

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33. At the hearing held on June 30, 1981 I denied Nestle's motion for summary judgment of invalidity of the '722 patent on the ground that the Board of Appeals'

(Footnote #33 cont.,)
decision in the Ganiaris A application was final and dispositive of the issue that the Ganiaris application is unpatentable over the prior art. I concluded that it would not be appropriate to apply collateral estoppel effect to the judgment of the Board of Appeals since it was unlikely that Struthers viewed that proceeding as having precedence effect.

6. The Ganiaris '722 patent is invalid over the prior art.

7. The Ganiaris '722 patent is invalid for prior public use and/or sale.

8. The Howell '126 and Ganiaris '722 patents are invalid and unenforceable by reason of Struthers' withholding of material facts from the Patent Office.[34]

After the hearing on the Group IV motion I reserved decision on grounds 1, 2, 3, 4, 6 and 7. This Part of this opinion concerns itself with those grounds.

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34. At the June 30, 1981 hearing I denied Nestle's motion for summary judgment of invalidity and/or unenforceability of the '126 and '722

(Footnote #34 cont.,)
patents on the ground that Struthers withheld material facts from the Patent Office for the reason that determining whether such a remedy is required by the equities of the case involves the resolution of disputed facts. DeLong Corp. v. Raymond Intern., Inc., 622 F.2d 1135 (3d Cir. 1980).

A. Description of the Patents

1. The Howell '126 Patent

The '126 patent is for a "Floating Agitator". The abstract of the disclosure reads: "A tubular crystallizer for solutions having an agitator shaft, an agitator means and a mounting means which are substantially the same weight per unit of length as the weight of the solution displaced by them."

As has been discussed at some length in previous Parts of this opinion, the process of freeze concentration of coffee or extracts of other substances may use a crystallizer. One form of crystallizer

is tubular in shape. The tubes through which the solution in which crystals are to be formed are inserted in a tank or larger tube containing the refrigerant. Inside the tube in which crystals are to be formed there are agitator blades having a slight clearance from the walls of the tube. These blades are oscillated or rotated and prevent the build-up of crystals on the walls of the tube.

The problem to which the '126 patent directs itself is that if the tube exceeds a certain length (depending on the kind and thickness of the material used in its construction) the agitator shaft sags in the middle, throwing off the alignment of the agitator blades, which then may scrape the walls of the tube.

In essence, the '126 patent solves this problem by introducing into the equipment (which is described at some

length in the specification) an "improvement in which said agitator shaft, said agitator means, and said mounting means are substantially the same weight per unit of length as the weight of solution displaced by said agitator shaft, said agitator means, and said mounting means per unit of length". Thus, the title "Floating Agitator". Since the equipment, in effect, floats in the fluid which surrounds it, it does not have the tendency to bend in the middle. This is what is claimed in claim 1 of the '126 patent. Claim 2 provides for an agitator shaft which is tubular and rounded in section. Claim 3 provides for gas under pressure within the hollow tubular agitator shaft.

The claims read as follows:

What is claimed is:

1. In a tubular crystallizer for solutions, having a tank, means introducing a refrigerant into said

tank, at least one elongated crystallizer tube passing through said tank, means introducing a solution into one end of said tube to pass through said tube, means withdrawing a solution and crystal slurry from the other end of said tube, wherein an agitator assembly comprises, in combination, an agitator shaft within said tube, bearing means at least at the ends of said shaft rotatably mounting said shaft within said tube, longitudinal agitator means, means mounting said agitator means a spaced distance away from said agitator shaft adjacent to said tube, and means driving said agitator shaft, said agitator shaft being hollow, the improvement in which said agitator shaft, said agitator means, and said mounting means are substantially the same weight per unit of length as the weight of solution displaced by said agitator shaft, said agitator means, and said mounting means per unit of length.

2. The combination according to claim 1 wherein said agitator shaft is tubular and rounded in section.

3. In a tubular crystallizer for solutions having a tank, means introducing a refrigerant into said tank, at least one elongated crystallizer tube passing through said tank, means introducing a solution into one end of said tube to pass through said tube, means withdrawing a solution and crystal slurry from the other end of said tube, wherein an agitator assembly

comprises, in combination, an agitator shaft within said tube, bearing means at least at the ends of said shaft rotatably mounting said shaft within said tube, longitudinal agitator means, means mounting said agitator means a spaced distance away from said agitator shaft adjacent to said tube, and means driving said agitator shaft, said agitator shaft being hollow, said agitator shaft, said agitator means, and said mounting means being substantially the same weight per unit of length as the weight of solution displaced by said agitator shaft, said agitator means, and said mounting means per unit of length, the improvement which includes gas under pressure within said hollow tubular agitator shaft.

2. The Ganiaris '722 Patent

The '722 patent bears the rather general title "Concentration of Coffee". There is no abstract of the disclosure. By way of background the specification notes that in the freeze concentration of coffee solutions containing 20% to 45% solids the solution must be cooled in the freeze concentration system to temperatures of 20° to 32°F. The

specification also notes that prolonged residence time of the coffee solution in the crystallizer is undesirable because coffee solids will be precipitated out of the solution in large quantities. To avoid this problem, according to the specification, a freeze concentration system (pipelines, tanks, crystallizers, etc.) should be designed so that the coffee extracts will have a residence time of less than 2.5 hours. Still, according to the specification, this should be accomplished by providing a ratio between 7:1 to 10:1 for the area of the heat transfer surfaces to the volume of the freeze concentration crystallizer.

The description of the preferred embodiment of the invention states that "a series of crystallizers may be used in sequence if desired" (emphasis added). Claim 1 provides for "plural serially connected crystallizer means". It

provides that the total annular volume of the crystallizer's inner shell to the area of said inner shell heat transfer surface shall be "sufficient" to avoid precipitate formation from the coffee. It further provides for a flow rate through the crystallization zone of greater than 40% per hour of volume. In any event, the two claims in the patent, in their entirety, read as follows:

What is claimed is:

1. An apparatus system for concentration of aqueous liquid coffee solution containing from 20 to 45 percent dissolved coffee solids, comprising:

a. plural serially connected crystallizer means, each having an outer shell, and an inner shell having a cylindrical heat transfer surface, forming ice therein at coffee temperatures down to 20°F.,

b. inlet and outlet means coupled to said crystallizer means to allow refrigerant to pass across the outside of the

heat transfer surface of the inner shell, and coffee solution to pass across the inside of the heat transfer surface of the inner shell through a crystallization zone having an annular cross section,

c. the ratio of the total annular volume of said crystallizer means inner shell to the area of said inner shell heat transfer surface being sufficient to avoid precipitate formation from coffee, said annular volume being provided by a hollow axial central cylindrical member within said inner shell,

d. means to provide a flow rate of said coffee solution through the annular crystallization zone of each said crystallizer means of greater than 40 percent per hour of the volume of each said crystallizer means, and

e. means separating ice from said coffee extract after passage through at least two serially connected crystallizer means.

2. An apparatus system according to claim 1 including coffee agitation means within said annular crystallization zone.

B. Prosecution of the Applications

Three applications for patent, all of which were owned and prosecuted by Struthers, are pertinent to this motion. The first application (Howell Serial No. 551,252; Exhibit 12) resulted in the Howell '126 patent. The second application (Ganiaris A; Serial No. 651,451; Exhibit 13) became abandoned when Struthers dismissed its appeal to the Court of Customs and Patent Appeals from the PTO Board of Appeals' affirmance of the final rejection of all claims of that application. The third application (Ganiaris B; Serial No. 879,843; Exhibit 14) resulted in the Ganiaris '722 pattent.

1. THE HOWELL APPLICATION (The '126 Patent)

On May 19, 1966 Struthers filed a patent application (Exhibit 12) in the

name of its employee, John D. Howell, for a "floating agitator". The application contained three claims to apparatus comprising an ordinary tubular crystallizer, having a hollow central shaft carrying agitator blades. The alleged novel feature was that the hollow shaft and its fittings have "substantially the same weight per unit of length as the weight of solution [it] displaced" thereby (claim 1; Ex. 12, p. 10) - in short, that the shaft assembly tend to float and be buoyant in the solution. Claim 2 called for the agitator shaft to be "tubular and rounded" (Ex. 12, p. 10). Claim 3 added the feature of pressurizing the hollow tubular shaft with gas (Ex. 12, p. 10).

The specification of the Howell '126 patent acknowledged that tubular crystallizers conventionally have central shafts carrying agitator blades, but

stated that crystallizers having a length over ten feet were costly and difficult to build, because the long central shaft tended to bend, with resultant misalignment (Ex. 12, p. 3). The asserted objects of the alleged invention included providing an agitator shaft assembly having substantially the same specific gravity as water, so that it might float within the crystallizer and reduce the load on the bearings (Ex. 12, p. 5). Pressurizing the interior of the shaft was said to stiffen it (Ex. 12, p. 8).

Claims 1 and 2 were rejected over the 1941 Crighton patent 2,267,081 (Tab I). Dependent claim 3 (for a gas pressurized shaft) was indicated to be allowable if presented in independent form (Ex. 12, p. 15). The Crighton patent provides a jacketed heat exchanger (chiller) having an axially mounted screw to move material

through the device. The screw preferably has a hollow center portion in order to reduce its weight (Tab I; p. 1, right col., lines 2-6). Howell similarly proposed a hollow shaft to reduce the weight of the shaft (Ex. 12, p. 3, lines 23-24, p. 5, lines 6-7).

In response to the official action, Mr. Drucker amended claim 1 to identify the portion which allegedly constituted the improvement over the prior art (by adding the words "the improvement in which") (Ex. 12, p. 17). He also replaced claim 3 by new, independent claim 4, which recited "the improvement which includes gas under pressure within said hollow tubular agitator shaft". (Ex. 12, p. 18.)

In arguing patentability of the claims over the Crighton reference, Mr. Drucker stressed that Howell assertedly provided a shaft which can be made of

"very long length without intermediate support", and that Howell's "purpose is the provision of a very long shaft which can be floated within the solution to be crystallized" (Ex. 12, pp. 18-19). The claims under consideration, however, are silent as to the feature of shaft length, upon which patentability was sought to be predicated. The response filed by Mr. Drucker did not "show how the amendments avoid such references" or "specifically [point] out how the language of the claims patentably distinguishes them from the references", as 37 C.F.R. § 1.111 requires.

The Howell application was allowed, and issued as a patent on February 6, 1968.

2. THE ABANDONED GANIARIS A APPLICATION (Serial No, 651,451)

In July, 1967 Struthers filed the

Ganiaris A application (Serial No. 651,451; Ex. 13). It claimed priority of a British application filed July 15, 1966 (Ex. 13, pp. 21-28).

The abstract of the application stated that in freeze concentration of coffee the ratio of the heat transfer area to the volume of the system should be between 1:7 to 1:10 (Ex. 13, p. 4). Like teaching appeared two pages later (Ex. 13, p. 6). On the next page of the application, however, the teaching is reversed; and it is said that the ratio of volume to area should be within that numerical range (Ex. 13, p. 7). In addition, the last of these three teachings states that the ratio is in units of feet, whereas the first two statements described the ratio without regard to any unit of measurement. It is impossible to tell, from the written description of the alleged in vention

contained in the Ganiaris A application, which ratio (area to volume or volume to area) should be within the stated numerical range.

The originally filed claims (Ex. 13, p. 9), however, specify that it is the ratio of area to volume which must be between 1:7 to 1:10. The prior British application (Ex. 13, pp. 21-28) -- which Ganiaris declared to be an "application for patent on this invention *** filed by me" (Ex. 13, p. 10) - teaches only a volume to area ratio within the stated range. The written description of the alleged invention contained in the British application is thus the reverse of what was claimed in Ganiaris A.

The Ganiaris A application also stated that "prolonged" residence time in the system would result in coffee solids precipitating out of solution in large quantities (Ex. 13, p. 4), and that

residence time of the extract in the system should be less than 2.5 hours (Ex. 13, p. 5). On the other hand, the application stated, growth of ice crystals depends on time spent within the crystallizers (Ex. 13, p. 5). On the other hand, the application stated, growth of ice crystals depends on time spent within the crystallizers (Ex. 13, p. 5). Therefore, it was said, because residence time within the crystallizer is the only known design parameter that affects both ice crystal growth and precipitate formation, "a relation of heat transfer area to volume for a crystallizer must be determined in order to insure a maximum crystal growth rate without precipitate formation" (Ex. 13, p. 6; emphasis supplied). Thus, the ratio of area to volume was described to be the essence of the alleged invention; but the description in the Ganiaris A

application, the claims in that application, and the prior British application contradict each other on this supposedly vital point.

In the first office action, dated April 25, 1968, the examiner failed to detect the contradictory and inadequate specification. He rejected all claims over the 1942 Harrington patent 2,306,602 (Tab J) which, like the Ganiaris application, describes a crystallizer having an outer shell for refrigerant, a central passage also for refrigerant, and a passageway between for the product to be cooled. The examiner pointed out that in the Ganiaris apparatus claims "the recitation of residence time, in claim 1, line 3, is a functional statement of intended use and the ratio limitation in lines 5-7 is an obvious design feature" (Ex. 13, p. 13). The examiner also cited other prior art patents showing

crystallizers of the Ganiaris type, including the '126 patent.

In response to the official action Mr. Drucker did not alter the specification, but he made various amendments to the claims. He argued that the originally claimed ratio of area to volume of 1:7 to 1:10 "is considered to be a critical aspect of the instant invention *** . This critical ratio range, which defines the invention in claims 1 and 2 is not shown or suggested in the cited references **** " (Ex, 13, p. 16). Mr. Drucker did not address the inconsistent character of the Ganiaris specification or deal with the portions which mandate that volume to area ratio be within the stated ranges or that the ratio is in units of feet.

In a further office action, dated July 9, 1968, the examiner stated that the arguments had been considered but

were not persuasive. He again rejected the claims over the Harrington patent and pointed out that the claims did not distinguish structurally over the reference, stating:

> Applicant's heat exchanger is conventional and the invention, if any, resides in a method of operating the heat exchanger and not in the heat exchanger itself.
>
> (Ex. 13, p. 19.)

This rejection was made FINAL.

An appeal was noticed to the Patent Office Board of Appeals (Ex. 13, p. 33). Thereafter, an amendment was filed purporting to change the "critical" area to volume ratio taught in the first part of the specification and specified in the claims and to convert it to a volume to area ratio.

No explanation was provided for changing the application in such manner that it no longer supported the subject

matter which had been claimed, argued and appealed. It was merely stated that the specification was amended to be consistent with the equation at page 4 of the application (Ex. 13, p. 7). The inconsistency of that formula with the earlier parts of the specification, and with the subject matter theretofore pursued in prosecution, was not mentioned. The specification, as amended, was utterly confusing, referring to "the volume of the heat transfer surfaces" and to "the area of the freeze concentration system". The amendments did not conform to the application as filed; see 35 U.S.C. § 132 and 37 C.F.R. § 1.118.

Claim 1 was also amended to reverse the ratio to a volume to area ratio and to add recitation of "means to provide a flow rate of said coffee solution through said crystallizer of greater than 40% per

hour of the volume of said crystallizer". It was urged that this newly added feature, together with the newly stated ratio, distinguished over the art.

The examiner entered the amendment for purposes of appeal, but persisted in his rejection of the claims (Ex. 13, p. 34). Struthers' brief on appeal argued that the now-reversed volume to area ratio of 1:7 to 1:10 was "critical" and not shown in the prior art (Ex. 13, p. 38). The examiner's answer to Struthers' brief pointed out that the volume to area ratio (which corresponds to an area to volume ratio of 7:1 to 10:1) "is only another way of stating that there should be a large area of cooling surface relative to the volume of material being treated" and "the higher the area of heat transfer the higher will be the rate of heat transfer. Claim 1 is so broad that

it would read on a small diameter tube through which a product passes while being chilled by the refrigerant surrounding it" (Ex. 13, p. 43). The examiner added that Ganiaris was claiming apparatus, not method, and that "the method of using a device is immaterial to the question of patentability of claims directed to structure of the device" (Ex. 13, p. 44).

Struthers' reply brief again insisted that the volume to area ratio "is critical and it was so stated in the application as filed" (Ex. 13, p. 48).

After oral hearing, the Patent Office Board of Appeals affirmed the final rejection of all claims. Ex parte Ganiaris, Appeal No. 892-51, April 1, 1969 (Ex. 13, p. 51). The three Examiners-in-Chief comprising the Board of Appeals held that the claims did not distinguish over the prior art. The

claimed recitation of means to provide a flow rate of greater than 40% per hour of the volume of the crystallizer was held to be unavailing, because "appellant has disclosed no structure of a means for providing such specific rate" (Ex. 13, p. 52). The recitation of "concentration of an aqueous coffee solution containing from 20 to 45% coffee solids" was held to be a patentably ineffective use limitation, the claims being directed to apparatus (Ex. 13, p. 52).

As to the alleged criticality of the ratio of volume to surface area, the Board held:

> For the limits of a range to be critical, the results or characteristics achieved within the range must be different in kind rather than in degree from those achieved outside the range. [Citations omitted.] Criticality must be disclosed in the application. [Citations omitted.] Moreover, the basis of the allegation of criticality must be shown either

> in the application itself or in the record. [Citations omitted.] There is no disclosure in appellant's specification that the claimed range is critical. Moreover appellant has presented no evidence that the said range is critical. There is before us no evidence that results different in kind rather than degree are necessarily obtained in appellant's process when the involved ratio is 1:5 or 1:12. Appellant has disclosed no specific example of dimensions of the apparatus of his Figures 1 and 2 which will have a ratio lying within the range of his claims. Accordingly either his disclosure is insufficient or it would be obvious to one skilled in the art how to calculate suitable dimensions. * * * Moreover, we take official or judicial notice that it is well known in the heat exchange art that the greater the heat exchange surface area per unit volume [of] liquid to be cooled the faster is the rate of the cooling process. Conventional radiators of a hot water heating system for a house or conventional radiators of an automobile illustrate that this principle has long been known.
>
> (Ex. 13, pp. 53-54; emphasis in original.)

Following the Board of Appeals' affirmance of the final rejection of the claims on appeal, Struthers noticed a further appeal to the Court of Customs

and Patent Appeals (Ex. 13, p. 56). In contrast to Struthers' briefs before the Board, the stated reasons of appeal asserted that criticality was not an issue before the Board, and that the Board erred in stating that there is no disclosure in the application that the claimed ratio range is critical (Ex. 13, p. 57).

The appeal was never heard by the CCPA. Struthers filed another patent application (Ganiaris B) and the appeal to the CCPA was thereafter dismissed on Struthers' own motion (Ex. 13, p. 63), after claims of the Ganiaris B application had been rejected for double patenting over the claims of Ganiaris A.

3. THE GANIARIS B. APPLICATION (The '722 Patent)

On November 25, 1969, during pendency of the appeal of Ganiaris A to the Court

of Customs and Patent Appeals, Struthers filed a further application (Serial No. 879,843; Ganiaris B; Ex. 14). It purported to be a "division" of Ganiaris A application, even though no requirement for division or restriction had been made by the examiner in Ganiaris A (see 35 U.S.C. § 121).

The specification of the Ganiaris B application was similar to that of the Ganiaris A application, except that ratio of area to volume was restated to between 7:1 and 10:1, no units being given (Ex. 14, pp. 3, 5). At the end of the specification of Ganiaris B, the ratio of volume to area is stated to be 1:7 to 1:10, expressed in feet (Ex. 14, p. 7).

Original claim 1 of Ganiaris B was essentially identical to amended claim 1 of Ganiaris A on appeal to the CCPA (it claimed an "apparatus system" rather than "apparatus" and "crystallizer means"

rather than a "crystallizer"). Claim 2 of Ganiaris B merely called for plural crystallizers (Ex. 14, p. 8).

In the first official action (Ex. 14, p. 14) the examiner rejected claims 1 and 2 of Ganiaris B for double patenting over the appealed claims of Ganiaris A, observing that they were "substantial duplicates", Claims 1 and 2 were also rejected as unpatentable over the 1932 Vogt patent 1,847,149 (Tab F), which shows tubular crystallizers providing volume to area ratios of 1:16 and 1:3, which embrace the 1:7 to 1:10 ratio claimed by Ganiaris. The examiner observed that it would be "an obvious expedient to vary this ratio so as to be within" Ganiaris claimed range (Ex. 14, p. 15). Claims 1 and 2 were also rejected over the 1942 Harrington patent (Tab J), upon which the Board of Appeals had affirmed the rejection of the

Ganiaris A claims. Three other patents were cited to show crystallizers of the Ganiaris type: Struthers' Reimus patent '302, filed December, 1965 (Tab Q); the 1959 Kolner patent 2,886,587 (Tab K); and the 1965 Jackson patent 3,212,283 (Tab L).

In reply to the office action Mr. Drucker did not amend, but added two new claims and proposed a new Figure 3 for the drawing (Ex. 14, p. 18-21). New claim 3 for the first time omitted the volume to area ratio which Mr. Drucker had previously insisted to be critical during prosecution of Ganiaris A, and which was recited in claim 1 of Ganiaris B. In its place new claim 3 substituted the statement:

> (c) the ratio of the total annular volume of said crystallizer means inner shell to the area of said inner shell heat transfer surface being sufficient to avoid precipitate formation from coffee

(Ex. 14, p. 18.)

Mr. Drucker's accompanying remarks did not comment upon this new clause, or point out how its language patentably distinguished or avoided the references. Compare 37 C.F.R. § 1.111.

Mr. Drucker traversed the rejections on the Vogt and Harrington patents by arguing that neither reference shows the "critical provision of means to provide a flow rate greater than 40% per hour of crystallizer volume" (Ex. 14, p. 20). The Board of Appeals, of course, had held in Ganiaris A that "appellant has disclosed no structure of a means for providing such specific rate" (Ex. 13, p. 52; original emphasis), and there was no description of such means in Ganiaris B. The volume to area ratio, formerly asserted to be "critical" in prosecution of Ganiaris A, was not mentioned.

The Ganiaris B specification did not

describe a flow rate greater than 40% per hour of the volume of the crystallizer, as called for in the claims. Rather, the specification stated: "To avoid the problem of precipitation, a freeze concentration system for coffee extracts should be designed to have a residence time of less than 2.5 hours [which is equivalent to a flow rate of greater than 40% per hour]. Therefore, the entire volume of the freeze concentration system (pipe lines, tanks, crystallizers, etc.) should be less than 2.5 times the hourly flow rate through the system" (Ex. 14, p. 4). The application thus expressly distinguished between the volume of the crystallizer and the volume of the entire system. Since a residence time of less than 2.5 hours can be expressed as a flow rate of greater than 40% of the volume per hour, the specification spoke of one volume (the entire system) while the

claims spoke of a quite different volume (the crystallizer only). The examiner observed in the next official action, "Surely the applicant cannot contend that having a residence time of less than 2.5 hours is new" (Ex. 14, p. 25).

The next office action (Ex. 14, p. 23) again rejected all claims. Claims 1 to 4 were rejected for double patenting over the appealed claims of Ganiaris A, and noted that a terminal disclaimer had not been filed. Claims 1-4 were then rejected over Reimus '302 patent, filed 1965 (Tab Q), which was cited to show that precipitation from coffee is time-dependent, in view of Bevarly patent 3,389,567, filed 1961 (Tab R), which was cited to show cooling equipment having a high ratio of area to volume and a low residence time. The examiner stated:

The specific recitation of providing

> a flow rate such that residence time is less than 2.5 hours, is of no significance since this upper limit is so high that practically every system which the Examiner has seen in his search meets this limitation. Surely the applicant cannot contend that having a residence time of less than 2.5 hours is new. Also the volume to area ratio of 1:7 to 1:10 is of no patentable significance since there is nothing in applicant's specification or remarks which would indicate that this range is critical. The art teaches applicant's basic concept of having a high ratio of area to volume and therefore the fact that applicant recites a specific high ratio without any showing of improved results by reciting such a ratio is not persuasive.
>
> (Ex. 14, p. 25.)

Claims 1 and 2, which recited the numerical volume to area ratio were rejected under 35 U.S.C. § 112 for failure to state the dimension (which was expressed in feet in the specification; Ex. 14, p. 7). As the examiner pointed out, the volume to area ratio is not dimensionless and, therefore, varies with the units used for measurement (e.g.,

volume in cubic feet divided by area in square feet gives a ratio expressed in feet -- a different ratio would be obtained if the ratio were calculated in inches, yards or meters).

Claims 1 and 2 were additionally rejected as unpatentable over the 1932 Vogt patent 1,847,149 (Tab F.). The examiner stated, "obviously those skilled in the art would provide a pump for patentee's apparatus such that the residence time is less than 2.5 hours. To not do so would be rather absurd since the optimum usage of the apparatus would dictate maximum flow rate" (Ex. 14, p. 26)

Cottle, et al. patent 3,362,178, filed January, 1964 (Tab P), was cited as teaching the precipitation problem, but was not applied to reject the claims.

Mr. Drucker thereafter filed an amendment (Ex. 14, p. 29) cancelling

claims 1 and 2 and amending claim 3. He stated that the double patenting rejection was moot because the Ganiaris A application had been abandoned (Struthers with drew the appeal to the CCPA; Ex. 14, p. 29). It was argued that various features of the claims were not shown in the Reimus and Bevarly patents, e.g., that the Reimus '302 patent did not show serial ice crystallizers, and did not show a hollow axial core member (Ex. 14, p. 31). Mr. Drucker did not, however, bring to the examiner's attention that Struthers' Howell '126 patent (filed May, 1966) discloses a hollow axial core member. The examiner was told that:

> Several critical features not found together in the prior art are set out as claim elements. These features define a commercial process as distinct from a theoretical laboratory curiosity.
>
> (Ex. 14, p. 32.)

The Ganiaris B application was thereupon allowed, and issued as the '722 patent.

C. Prior Sale - Nestle's and Struthers' Contentions

One ground for Nestle's motion for summary judgment of invalidity of the '126 and '722 patents is that the equipment which Struthers contracted to sell and sold to General Foods in 1964 (more than one year prior to the filing dates of the two patents and of the British application) incorporated the inventions of the '126 and '722 patents. It is illuminating to examine the thrust and parry of Nestle's and Struthers' contentions in this regard.

1. Nestle's Initial Submission: Nestle laid the factual foundation for its motion by referring to the previously

described offer and sale to General Foods of Struthers' "FreCon" freeze concentration process and by submitting Struthers' responses to discovery relating to the '126 and '722 patents.

Nestle contended that Struthers' answer to General Foods' Interrogatory 119 (of record as Nestle's Deposition Exhibit 39, Tab G) establishes that equipment claimed in the Howell '126 patent was delivered to General Foods in November and December of 1964 and incorporated into the first Hoboken plant. Part 43 of that interrogatory answer (at p. 28) states:

> 43. Struthers achieves a reasonably long shaft length in its crystallizer without the use of spiders, by utilizing a hollow shaft. The diameter of the shaft is carefully selected so that when the crystallizer is filled with slurry, the weight of the shaft just equals the weight of the displaced slurry, thereby eliminating unsupported weight which would cause bowing.

> Additionally, the hollow shaft serves the important process function of reducing crystallizer retention time. (Emphasis supplied.)

That equipment was sold to General Foods by contract dated August 12, 1964. In addition, Struthers' supplemental answer to Nestle's Interrogatory 50 states that General Foods has infringed the Howell '126 patent by use of equipment sold to it by Struthers in 1964 and 1965.

Nestle further contended that the alleged invention of the '722 patent was incorporated in equipment sold by Struthers to General Foods by contract of August 12, 1964 and delivered in November and December, 1964 (as well as in equipment sold by the second General Foods contract of September, 1965 and delivered to General Foods in December, 1965). Struthers' sworn answers to General Foods' Interrogatory No. 119,

supra, states (at p. 26):

> Residence time in the crystallizer should be on the order of 15 to 30 minutes. Longer retention time would permit growth of crystals to a larger size, however, long retention is disadvantageous from the point of view of flavor. . . . The ratio of heat exchange surface to crystallizer volume used in the plant built for Maxwell House is believed to be at or near the optimum.

2. Struthers' Initial Response:

Struthers' answer to Nestle's factual submissions relating to the '126 patent is contained in paragraph 12 of Ganiaris' affidavit:

> 12. The Howell '126.concept of a floating shaft was incorporated in the equipment sold to General Foods Corporation under the 1965 contract. The shafts for the first stage crystallizer under the 1964 contract did not incorporate (and could not have incorporated) the Howell '126 concept. Mr. Howell was not associated with Struthers in 1964. He joined the company sometime in March or April 1965.

Struthers' answer to Nestle's factual submissions relating to the '722 patent is likewise contained in an affidavit of Mr. Ganiaris:

> 47. The sales contract dated August 12, 1964 included a complete freeze concentration system with two crystallizers. Only one of the crystallizers had a hollow shaft. In 1964, the one crystallizer with a hollow shaft was used as a first stage crystallizer and the coffee extract was concentrated from about 24% to 36-37% coffee solids. Furthermore, the crystallizer had several tubes connected in parallel.
>
> 48. The Ganiaris '722 concept was developed later and involved concentrating coffee extract from 20-45% and the tubes were 'serially connected' in serpentine form, as distinguished from the earlier system where the tubes were parallel and only connected at the beginning and the end.
>
> 49. The equipment supplied to General Foods under the September 30, 1965 sales contract did not come within the claims of the '722 patent because, for example, the equipment did not incorporate the flow rate of 'greater than 40% per hour of the volume of each crystallizer' specified in claim 1(d) of my '722 patent.

3. Nestle's Reply: In response to the statements of Mr. Ganiaris concerning the '126 patent, Nestle noted again that Struthers had admitted under oath that a crystallizer incorporating a long, hollow shaft having a weight which "just equals the weight of the displaced slurry" was sold by Struthers to General Foods in the August, 1964 contract and was delivered to General Foods and incorporated into the first Hoboken plant by the end of 1964. Mr. Ganiaris did not deny these facts and in his affidavit conceded the sale of the crystallizer. The only effect of Mr. Howell's non-employment by Struthers in 1964, Nestle urges, is to show that Howell did not invent the subject matter patented and to show that the oath or declaration which accompanied the application was false.

Answering Ganiaris' statements directed to the '722 patent, Nestle contended:

a. General Foods' use of the crystallizer to concentrate extract from 24% to 36-37% solids is immaterial since the claim defines apparatus, not a process. Thus, no matter what the use to which it was put, sale and offer of sale of the crystallizer had the invalidating effect.

b. As to Ganiaris' statement that the '722 concept was developed later: (i) insofar as the concept resided in "providing annular crystallizer volume", any crystallizer having a central shaft has an annular volume; (ii) insofar as the concept involved a "serpentine" form of connection, no such concept is disclosed or claimed in the '722 patent; and (iii) Ganiaris' affidavit is in direct conflict with Struthers' sworn

answer to Nestle Interrogatory 62 (p. 42), which avers: "The invention of each of the ['722] claims was first conceived in April 1964", a date well prior to the August, 1964 contract of sale and delivery later that year.

c. The flow rate specified in the '722 claim is not structure and it is immaterial whether the apparatus sold to General Foods was used in a manner which provided such a flow rate.

4. Struthers' Surrebuttal:

Struthers filed another affidavit of Mr. Ganiaris on the very day when the Group IV motion was argued.

In that affidavit, Mr. Ganiaris, in effect, disavowed Struthers' answer to General Foods' Interrogatory 119, which stated, in part, with respect to equipment sold to General Foods in 1964: "The diameter of the shaft is carefully

selected so that when the crystallizer is filled with slurry, the weight of the shaft just equals the weight of the displaced slurry, thereby eliminating unsupported weight which would cause bowing." That statement, given under oath by Struthers, is completely clear and unequivocal and constitutes a bald admission that in 1964 Struthers sold equipment incorporating the invention claimed in the '126 patent. Ganiaris' last-minute response - "That shaft did not, and was not intended to, 'float'. Struthers' answer to General Foods' interrogatory 119 is not completely clear on this matter, and if it is inconsistent with the foregoing, the answer is wrong."

All too often in the prosecution of its patents and in the prosecution of this law suit Struthers, when backed into a corner, simply changes its story without explanation or apology. I shall

discuss this further when dealing with the question whether there is a genuine issue of material fact with respect to Nestle's prior sale contention.

Finally, Ganiaris' twelfth hour affidavit seeks to explain Struthers' answer to Nestle Interrogatory 62, which asserted that the "invention of each of the ['722] claims was first conceived in April 1964". In his original affidavit in opposition to the Group IV motion Mr. Ganiaris had stated that the concept for the '722 patent "was developed" after the August, 1964 sales contract with General Foods. Ganiaris' explanation -- "However, conception is not the same thing as development of an invention. Indeed, the same interrogatory cited by Nestle states that the first reduction to practice of the invention was in 'early 1965'."

This, then, is a summary of the

factual data upon which summary judgment on the ground of prior sale must be granted or denied.

D. Invalidity of the '126 Patent under §112

Nestle contends that the claims of the '126 patent are invalid under 35 U.S.C. § 112 because they fail particularly to point out and distinctly claim the subject matter which the applicant regarded as his invention, because they are incomplete and indefinite and do not define an operative apparatus, and because they are vague and indefinite. Nestle points to the following alleged deficiencies to illustrate its § 112 contentions:

a. While the '126 specification relates to tubular crystallizers having a shaft length in excess of 10 feet, the claims are silent as to shaft length and could read on very short shafts.

b. The claims do not define any

means for exhausting or removing spent refrigerant from the tank; thus the apparatus is inoperative.

c. The claims use the term "substantially" in defining the improvement constituting the invention -- the agitator having "substantially" the same weight as the displaced solution. The term is undefined, according to Nestle, and cannot serve to claim with particularity and distinctly the novel feature of the apparatus.

d. Similarly, Nestle asserts that Claim 3 is vague and indefinite in defining "gas under pressure" within the shaft as the alleged improvement, there being not the slightest suggestion as to how much pressure is to be used.

It does not appear that Nestle is challenging the '126 patent on "description" or "enablement" grounds under the first paragraph of § 112,

namely, that the specification fails to "contain a written description of the invention, and of the manner and process of making and using it . . . so as to enable any person skilled in the art to which it pertains . . . to make and use the same". Rather, Nestle argues that the claims do not meet the "definiteness" requirements of the second paragraph of § 112 in that they do not particularly point out and distinctly claim the subject matter which Struthers regards as its invention.

The purpose of the definiteness requirement "is to demarcate the boundaries of the purported invention, in order to provide notice to others of the limits 'beyond which experimentation and invention are undertaken at the risk of infringement'." Rengo Co. Ltd. v. Molins Machine Company, Inc., supra, slip op. at 33.

The invention claimed in the '126 patent is absurdly simple. It consists of a crystallizer in which, to prevent an agitator shaft from sagging by reason of its own length and weight, (i) the agitator shaft, the agitator means and the mounting means are substantially the same weight per unit of length as the weight of the solution they displace (claims 1 and 2) and/or (ii) the stiffening effect is imparted by gas under pressure within the hollow tubular agitator shaft (claim 3). The claims sufficiently impart notice to others. If the '126 patent claims more than this I believe that there would be serious § 112 problems. However, I believe this is the sum total of the "invention". If an inventor seeks to stiffen an agitator shaft by partially submerging it in a liquid or by pumping gas under pressure into the shaft's innards he is, assuming

the validity of the '126 patent, treading on dangerous ground.

Consequently, Nestle's motion for summary judgment of invalidity of the '126 patent based on § 112 grounds will be denied.

E. Invalidity of the '126 Patent over the Prior Art Obviousness

The Court observed in Graham v. John Deere, supra, "a patentable invention [must] evidence more ingenuity and skill than that possessed by an ordinary mechanic acquainted with the business". 383 U.S. at 11. On the basis of the indisputable facts in the record the '126 patent connot meet this requirement.

The independent claims of the Howell patent are in a form known as Jepson-type format (from a 1917 Commissioner's decision in Ex parte Jepson, 1917 C.D. 62). The Jepson form of claim sets forth

in the preamble that which is old and known, and then sets forth as the "improvement"that which the patentee regards as new. Use of that form of claim is sanctioned and encouraged by the PTO Rules of Practice, which provide, in 37 C.F.R. § 1.75(e):

> Where the nature of the case admits, as in the case of an improvement, any independent claim should contain in the following order, (1) a preamble comprising a general description of all the elements or steps of the claimed combination which are conventional or known, (2) a phrase such as 'wherein the improvement comprises' and (3) those elements, steps and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.

Jepson-type claims have also received judicial recognition. See e.g., Application of Aldrich, 398 F.2d 855, 857 (CCPA 1968):

> We make the following points about claim 1, which apply, of course, to all claims due to their dependency on

> claim 1. The claim is in Jepson form and implicitly makes it known that it is old to make paper with the named water-insoluble paper additives by adding them to the aqueous suspension of paper-making fibers.

See, also, Sanford v. Kepner, 195 F.2d 387, 389 (3d Cir.), affirmed, 344 U.S. 13 (1952):

> Such reference in a patent claim to the structural setting within which a particular invention has been designed to operate is proper and familiar, but does not enlarge the invention.

The Jepson form of Howell's claim 1 admits that the combination of elements set forth in the preamble (preceding the improvement clause) was old and known, including the provision of a tubular crystallizer. And, indeed, the prior art set forth below shows that to be the case. The sole asserted improvement is nothing more than applying the well-known principle that the weight of an object is "substantially" the same as the weight of the solution it displaces. That is the

feature Mr. Drucker asserted as "the very point of novelty" (Ex. 12, p. 18) when using very long shafts.

The genesis of the '126 patent illustrates its lack of novelty or originality and how one with no skill in the art was able to handle the concepts involved. Howell, the alleged inventor, had no experience in freeze drying or spray drying of liquids. He had no experience in the removal of insolubles from liquids. He worked as a senior machine engineer for Struthers for sixteen months and prior to that time he had no background in coffee processing technology (Struthers' answers to Interrogatories 26 and 43 in the action instituted by Struthers against Coca-Cola). He testified in the General Foods litigation as follows:

Q. Let me ask you to state in your

own words the nature of the invention which that patent [Howell '126] relates.

A. The nature of the invention was, as I think I explained before, that they asked me whether it wouldn't be wise to increase the wall thickness to stiffen it up against deflection.

Q. That is the crystallizer, is that right?

A. Yes. And I thought about it a minute, and -- well, maybe more than a minute. By the next day I came in, 'Look, if we make it so it floats, it doesn't have too much buoyancy but just has a reasonable buoyancy, we don't have to work with deflection. The thing is running in the liquid.' I put this down in my lab notebooks and calculated just what size pipe, standard pipe, would come nearest to this and figured it out, and actually I think we reduced the thickness of the pipe rather than increasing it, as I remember it.

Q. By 'the thickness of the pipe' you are talking about the --

A. About the shaft itself, the hollow shaft itself.

Q. So what, essentially, was the nature of the invention?

A. I would say essentially the nature of the invention was so designing this hollow shaft that it was substantially supported by the liquid around it. In other words,

there could be variations, of course. You are not going to get an absolute neutral buoyancy.

Q. How did you go about achieving that condition?
A. By selecting a pipe whose volume would be equivalent in water to the weight of the water displaced by the pipe itself and the blades on it.

Q. Would you agree with me, then, that this equivalency of weights to which you have referred is essentially the hallmark of your invention to which your patent relates?

A. Yes.

(Howell Tr. 98-99; Item 1; emphasis supplied.)

As Nestle enjoys noting and repeating, the '126 patent constitutes the application of Archimedes' principle which has been available for all to use for some twenty centuries.

Archimedes Principle, It is a fact of common experience that a body, when wholly or partially immersed in a fluid, is buoyed up by the fluid. Like Pascal's principle, the explanation of this effect follows directly from the laws of mechanics and does not depend on any special properties of a fluid. ***

A body immersed in a fluid is buoyed up with a force equal to the weight of the displaced fluid.

This is Archimedes' principle.

1 Sears, Principle of Physics, 305-306 (1946); (Tab V).

In its brief directed to the Group IV motion, Struthers admitted that "Howell's invention of an ice tubular crystallizer [is] based on Archimedes principle which utilizes hollow axial shafts . . . ", at p. 11.

The prior art is replete with instances in which Archimedes principle is used to avoid bending and in which hollow shafts are used to lighten the load or for other reasons.

The 1889 de Ferranti patent 408,295 (Tab B) discloses a floating heavy armature in an electric meter: "The armature, when itself imersed may be hollow to increase its floatation." The

1882 Hayes patent 267,425 (Tab A) discloses a wheel axle rigidly secured to a float, which is buoyed by a bath of quicksilver. The 1905 Low patent 803,770 (Tab C) discloses a measuring instrument comprising a long shaft floating in a bath of liquid of appropriate specific gravity, in order to avoid deformation (bending) of the long shaft. The 1918 von Post patent 1,256,747 (Tab D) discloses a weighing device in which the rotating parts are buoyed by mercury liquid or other suitable fluid.

The Meyer patent 3,176,403 (Tab R-9) teaches avoidance of sagging or bending of a long measuring element, without using intermediate supports, by floating it in a liquid. "By determining the material and dimension of the measuring element *** relative to the specific weight of the liquid 23, it is possible to insure that the compensating and

sustaining effects of the liquid corresponds with the weight of the measuring element and thus any sagging is eliminated" (Col. 2, lines 29-35).

The 1930 Vogt patent 1,783,864 (Tab E) discloses tubular crystallizer for chilling or freezing the treated material to the desired degree of plasticity. Blades or scrapers mounted on an axial shaft wipe the chilled material from the interior walls of the crystallizer. The 1932 Vogt, et al. patent 1,847,149 (Tab F) discloses such an apparatus for congealing ice cream or for crystallizing chemicals from solution. The 1935 Miller patent 2,023,607 patent (Tab G) shows such apparatus having a hollow axial shaft, more than thirty years before Howell. The 1941 Crighton patent 2,267,081 (Tab I) (cited by the Patent Office) provides a jacketed heat exchanger (chiller) having an axially

mounted screw to move material through the device. The screw preferably has a hollow center portion in order to reduce its weight.

Accordingly, claim 1 of the '126 patent represents no advance in the crystallizer art. The patent merely employs the hollow axial shaft taught by the prior art, and the principle taught by Archimedes and widely used by the art for centuries. It would be obvious to one skilled in the art (or even to one unskilled in the art, such as Howell) to apply this principle to a crystallizer. There can be no factual issue in this regard.

Claim 2 adds only the redundancy that the hollow shaft is "tubular and rounded". Shafts of that character are shown in Miller (Tab G) and several other prior art references.

Claim 3 defines the allegedly novel

improvement as gas under pressure within the hollow shaft. This well-known expedient stiffens footballs, balloons and bladders of various sorts and prevents them from collapse. The claim defines nothing novel, unobvious or patentable.

Without deciding whether the '126 patent is invalid under 35 U.S.C. § 102(a) and (b), it is clearly invalid on the basis of the undisputed facts in the record by reason of obviousness. 35 U.S.C. § 103. Summary judgment of invalidity will be entered on that ground.

F. Invalidity of the '126 Patent by Reason of Prior Sale

There is no doubt in my mind that the factual material which Nestle submitted in support of its motion for summary judgment of invalidity on the ground of

prior sale of the '126 patent was sufficient to grant the motion. In particular, Struthers' answer to General Foods' Interrogatory 119 established the factual basis for such a ruling. The answer stated that Struthers had sold to General Foods in 1964 an ice crystallizer which utilized a hollow shaft designed so that "the weight of the shaft just equals the weight of the displaced slurry, thereby eliminating the unsupported weight which would cause bowing".-- the very essence of the '126 patent.

As described above, on the day of argument Struthers submitted an additional affidavit signed by Mr. Ganiaris which, when stripped of its circumlocutions, stated that the answer to Interrogatory 119 was false. This new affidavit did not even attempt to explain why or how a false affidavit was filed. At oral argument Struthers' attorneys

simply argued that the new affidavit created a disputed issue of a material fact and that it would be a proper subject of cross-examination at the trial.

Reluctantly I conclude that for the time being, at least, the affidavit does create an issue of material fact and precludes granting summary judgment on this ground. Nevertheless, Struthers' casual treatment of the filing of a false statement under oath with a court (even though it was not this Court) is unacceptable. If this case is not concluded by disposition of the motions for summary judgment and any appeals therefrom, the matter will have to be pursued further.

G. Invalidity of '722 Patent under § 112

Struthers' confused and inept prosecution of the Ganiaris A and

Ganiaris B applications has been deseribed in Parts V B(2) and V B(3) of this opinion. The end result is the '722 patent which clearly fails to comply with the provisions of 35 U.S.C. § 112 in a number of respects. The following are examples of these deficiencies.

In its supplemental answer to Nestle Interrogatory 62, Struthers stated, with respect to the '722 patent (at page 42):

> The patentee's contribution to the state of the art and the advance made over the prior art resides in a provision of a system for the freeze concentration of coffee, the ratio of the area of the heat transfer surfaces of the heat [sic] crystallizer to the volume of the cryatallizer being between 7:1 to 10:1

The claims of the '722 patent do not, however, particularly point out and distinctly claim that alleged invention. The claims make no mention of the ratio of area to volume, even though that ratio

was represented by Struthers to be critical in prosecution of the Ganiaris A application before the examiner and before the Board of Appeals (supra, pp. 211-213). The claims are consequently invalid under the definiteness requirement of the second paragraph of § 112 for failure to define that which Struthers contends and admits, in this litigation, to be the "invention" of the '722 patent.

The wholly functional statement which Struthers substituted for the ratio of area to volume (in clause c of patent claim 1) does not satisfy § 112. It is plainly inadequate to define the alleged invention, as witness Struthers' supplemental answer to Interrogatory 62, supra. Moreover, the specification of the '722 patent does not contain a written description of the claimed invention and, in particular, it does not

teach that any ratio can be "sufficient to avoid precipitate formation from coffee". To the contrary, the specification warns that to avoid precipitation the residence time of the coffee extract in the system must be less than 2.5 hours. The claims are thus inaccurate, indefinite and misdescriptive and consequently invalid under § 112. General Electric Co. v. Wabash Appliance Corp., 304 U.S. 364 (1938); United Carbon Co. v. Binney & Smith Co., 317 U.S. 228 (1942)

A further deficiency of the claims relates to the prescribed flow rate. Clause d of claim 1 calls for a flow rate through the crystallizer greater than 40% per hour of the crystallizer volume. The specification requires, and the Ganiaris A application claimed, a residence time of less than 2.5 hours. The examiner rejected that feature as an attempted

distinction over the art, saying: "Surely the applicant cannot contend that having a residence time of less than 2.5 hours is new" (Ex. 14, p. 25). Struthers did not challenge that observation, but substituted flow rate for residence time (apparently on the theory that a flow rate of greater than 40% of the volume per hour results in a residence time of less than 2.5 hours).

In amending the claims to the form in which they appear in the patent, however, a defect was introduced. The specification clearly states that the entire volume of the system, including "pipelines, tanks, crystallizers, etc.", should be less than 2.5 times the hourly flow rate through the system (col. 1, lines 32-35). That is not what the claims specify, however. The claims, instead, base the flow rate to the volume of the crystallizer only. Consequently,

the claims are invalid under the definiteness requirement of the second paragraph of § 112 because they do not particularly point out and distinctly claim the subject matter which the applicant regarded as his invention and described in the specification. Alternatively, the patent is invalid under the description requirement of the first paragraph of § 112 because the specification does not contain a full, clear and exact written description of the invention claimed. Application of Smith, 458 F.2d 1389, 1394 (CCPA 1972).

Clause e of claim 1 is likewise without foundation in the specification, and it is also ambiguous and indefinite. Struthers argued that the claim calls for separating ice only after the extract passes through a series of crystallizers, and urged that this feature distinguished over the Reimus reference "who removes

the ice at each stage" (Ex. 14, p. 31). There is nothing in the claim, however, which precludes ice removal after each crystallizer, as in Reimus; the claim, accordingly, does not particularly point out and distinctly claim the invention which Struthers represented it to define. Moreover, the specification merely states that "a series of crystallizers may be used in sequence if desired" (col. 2, lines 18-19); it does not contain a full, clear and exact description of the invention Struthers has purported to patent. The result is invalidity under the first and second paragraphs of § 112.

The claims are defective and fail particularly to point out and distinctly claim the alleged invention in that, while directed to an "apparatus system",

they employ process or use recitations to define the alleged invention. The Board of Appeals held that the Ganiaris A apparatus is unpatentable over the prior art, and recitations of intended use cannot render the old apparatus patentable (Ex. 13, p. 52). The claims of the '722 patent are likewise directed to apparatus, and their reliance on use limitations does not particularly point out and distinctly claim the apparatus. Cf., Application of Sinex, 309 F.2d 488, 492 (CCPA 1962) ("the expression 'for reconcentrating liquid dehydrating agents' is merely a statement of intended use and does not qualify or distinguish the structural apparatus claimed over the reference").

Nestle's motion for summary judgment of invalidity of the '722 patent on the grounds that it fails to comply with the requirements of 35 U.S.C. § 112 will be granted.

H. Invalidity of the '722 Patent over the Prior Art -- Obviousness

Nestle urges that the '722 patent is not entitled to the benefit of a filing date earlier than the November 25, 1969 filing date of the Ganiaris B application. It must be determined, therefore, whether the '722 patent is entitled to the benefit of the July 26, 1967 filing date of Ganiaris A or the July 6, 1966 filing date of British Provisional application 31832/66, both of which are claimed by Struthers.

1. Ganiaris A Filing Date

The declaration of the Ganiaris B application, upon which the '722 patent issued, claims benefit under 35 U.S.C. §120 of the Ganiaris A application (Ex. 14, p.9). Under § 120 the '722 patent qualifies for this treatment if its invention was disclosed in the manner provided in the first paragraph of § 112 in the Ganiaris A application; that is to say, the Ganiaris A application must contain an adequate description of the '722 patent. This it fails to do.

Nestle urges that clause d of '722 claim 1 (which is also included in claim 2 by dependency) requires means to provide a flow rate through each crystallizer of greater than 40% per hour of the volume of each crystallizer and that, as held by the Board of Appeals, the applicant "has disclosed no structure

of a means for providing such specific rate". Ex parte Ganiaris, Appeal No. 892-51, April 1, 1969 (Ex. 13, p. 52). I have concluded that res judicata effect should not be given to that ruling, and it is unnecessary to decide whether the Board of Appeals was correct. The Ganiaris A application fails in other respects to contain a written description of the invention.

If the invention lies in the flow rate, the description is deficient. Ganiaris A discloses that "the entire volume of the freeze concentration system (pipe lines, tanks, crystallizers, etc.)" -- not just the crystallizer alone -- "should be less than 2.5 times the hourly flow rate through the system" (Ex. 13, p. 5). Thus, even if one can regard the Ganiaris A disclosure as amounting to a teaching that the flow rate should be greater than 40% of the volume, it is the

volume of the entire system, and not the crystallizer alone, which is specified. This can result in a very substantial difference and compels the conclusion that the specification does not describe the invention claimed in the '722 patent.

If the invention lies in the requirement that the ratio of volume to heat transfer surface area of the crystallizer means be "sufficient to avoid precipitate formation from coffee" (as claim c of the '722 claim requires), the description is also deficient. The disclosure is, instead, that precipitation is time-dependent, but that is controlled by flow rate (which in turn determines residence time). There is no disclosure that any ratio of volume and area can or will avoid precipitation.

Moreover, the Ganiaris A application as filed taught that "a relation of heat transfer area to volume for a

crystallizer must be determined in order to insure a maximum crystal growth rate without precipitate formation ... [which] has been found to be a ratio between 1:7 to 1:10 for the area of the heat transfer surfaces to the volume of the freeze concentration system" (Ex. 13, p. 6). The Ganiaris B application, in marked contrast, discloses that the ratio of area to volume should instead be 7:1 to 10:1 (col. 1, lines 51-58). Thus, even if the indefiniteness of patent claim clause c be ignored, and it further be assumed that one can look to the specification for guidance, it remains that the '722 patent teaches the essential ratio of area to volume must be between 7 and 10, while the otherwise parallel passage of Ganiaris A teaches that the ratio must be between 0.14 to 0.10 (1:7 to 1:10). Ganiaris A, therefore, does not contain a description

of the alleged invention claimed in the '722 patent which meets the requirements of § 112.

As noted in Part V(B)(2) above, the Ganiaris A application is self-contradictory and confusing. As filed, it taught an area to volume ratio of 1:7 to 1:10; but on subsequent pages it inconsistently taught a volume to area ratio of 1:7 and 1:10. There is nothing in the specification to clear up or to resolve this confusing ambiguity. The original claims of Ganiaris A (Ex. 13, p. 9), however, specified that the area to volume ratio be within that range -- and that is the very converse of what Ganiaris B calls for. As was remarked in Chemithon Corp. v. Procter & Gamble Co., 287 F. Supp. 291, 305 (D. Md. 1968), aff'd per curiam, 427 F.2d 893 (4th Cir. 1970):

In such a situation, the public does

> not know what the invention is, Schriber-Schroth Co. v. Cleveland Trust Co. 305 U.S. 47, 58 ... (1938), and the disclosure contradicts itself and furnishes no guide to the art. Grasselli Chemical Co. v. National Aniline & Chemical Co., 26 F.2d 305, 307-08 (2d Cir. 1928); see also, 4 Deller's Walker on Patents, §236. Even assuming that the disclosures of the parent application hinted at the characteristics [claimed in the later application], still the statutory requirements have not been met.

The purpose of the written description requirement of § 112, which is embodied in § 120, is to ensure that the applicant was in possession, as of the filing date of the earlier application, of the invention he claims in the later application and for which he claims benefit of the earlier filing date. Application of Wertheim, 541 F.2d 257, 262 (CCPA 1976); Rengo Co. Ltd. v. Molins Machine Company, Inc., supra, slip op. at 32. Here, it cannot be said that the content of the Ganiaris A application, and its original claims,

were for the "invention" described and claimed in the later Ganiaris B case. Consequently, the '722 patent is not entitled to benefit of the filing date of Ganiaris A.

2. British Application Filing Date

The Ganiaris A application claimed benefit under 35 U.S.C. § 119 of British Provisional application 31832/66, filed July 15, 1966 (Ex. 13, p. 20). The Ganiaris B application referred to the British application but could not (and did not) claim benefit of its filing date (Ex. 14, p. 9). § 119 requires that the domestic application, if it is to have benefit of the foreign application date, must be filed within twelve months of the earlier foreign application for the same invention. Ganiaris B was filed in November, 1969, more than twelve months

after the July, 1966 British Provisional application.

Consequently, the '722 patent could carry its effective filing date back to the British filing date only if (1) Ganiaris B were entitled under § 120 to benefit of Ganiaris A (which, I have concluded, is not the case), and (2) the British application were for the same invention as both Ganiaris A and Ganiaris B (which is also not the case).

The British Provisional application (Ex. 13, pp. 21-28) describes a volume to area ratio of 1:7 to 1:10 feet. That, however, is not the same invention described and claimed in Ganiaris A as filed (Ex. 13, p. 9). Consequently, Ganiaris A could not, under § 119, have benefit of the British Provisional application.

Thus, the '722 patent is not entitled to benefit of the British date, both

because the patent is not entitled to benefit of the Ganiaris A date and because Ganiaris A is not entitled to benefit of the British date. It matters not that Ganiaris B may contendably be for the same invention as the British Provisional, because Ganiaris B was filed more than twelve months after the British case was filed.

3. Invalidity of the '722 Patent under §102(d)

The declaration forming part of the Ganiaris B application refers to Canadian application 994,720, filed July 5, 1967 (Ex. 14, p. 9). That application became Canadian patent 811,389 (Tab T). Claim 1 of the Canadian patent reads:

> 1. In an apparatus for the concentration of an aqueous coffee solution containing from 20 to 45% coffee solids, a crystallizer having heat transfer surfaces to form ice crystals therein, the ratio of the

> total volume of said crystallizer to the area of said heat transfer surfaces being between 1:7 to 1:10 and means to provide a flow rate of said coffee solution through said crystallizer of greater than 40% per hour of the volume of said crystallizer.

Struthers has thus patented in Canada an invention which gives every appearance of being the same invention claimed in the '722 patent, on a Canadian application filed in July, 1967, more than twelve months before the November, 1969 application for the '722 patent was filed in the United States. Nestle argues that since the '722 patent is not entitled to benefit of the filing date of any application prior to the Ganiaris B application, the '722 patent is invalid under 35 U.S.C. § 102(d).

Struthers has not contested Nestle's contention that there is no patentable distinction between the invention patented in Canada and the invention

patented in the '722 patent, Consequently, it is unnecessary to address that point. Struthers simply relies upon its position that the '722 patent is entitled to the filing date of the British Provisional application and therefore the Canadian patent is not a proper reference under § 102(d). Having held that the '722 patent is not entitled to the earlier filing date, it follows that the '722 patent is invalid under § 102(d), and summary judgment of invalidity will be entered on that ground.

4. Invalidity of the '722 Patent under § 102(b)

Nestle also contends that the '722 patent is invalid over Struthers' Svanoe patent 3,285,021 (Tab N), which issued November 15, 1966, more than one year prior to the Ganiaris B application. 35 U.S.C. § 102(b). The filing date of the

Svanoe patent is November 5, 1962, which is well prior to the 1967 filing date of Ganiaris A, the 1966 filing date of the British Provisional application, the 1965 reduction to practice date alleged for the '722 patent in Struthers' supplemental answer to Interrogatory 62, and the April, 1964 invention (conception) date alleged in the supplemental answer. Consequently, the Svanoe patent is available to invalidate the '722 patent under § 102(e), as well as § 102(b).

Svanoe Canadian patent 699,247 (Tab S), which is a counterpart of the United States Svanoe patent, issued December 1, 1964, which is more than one year prior to the filing date of Ganiaris B, Ganiaris A and the British Provisional application. The Canadian patent is, therefore, available to invalidate the '722 patent even if the latter were

entitled to benefit of the filing dates of Ganiaris A and the British case.

However, in view of the fact that I have concluded that the '722 patent is invalid under § 112 and § 102(d), it is unnecessary to determine whether, in the light of the facts as to which there can be no issue, the '722 patent is also invalid under § 102(b), as patented or described in a printed publication more than one year prior to the date of the United States application. Similarly, it is unnecessary to determine whether, on the basis of the same facts, the '722 patent is invalid as obvious under § 103.

I. Invalidity of the '722 Patent by Reason of Prior Sale

In Part V C of this opinion I have set forth the factual data upon which Nestle urges and Struthers resists

summary judgment on the ground of prior sale or offer of sale under 35 U.S.C. § 102(b). I have decided not to rule on this contention for two reasons. First, it is unnecessary since I have already concluded that the '722 patent is invalid on two other grounds. Second, the '722 patent is so unclear, and the various Struthers assertions as to what, in fact, is the claimed invention are so diverse, it would be an unduly cumbersome exercise to match it all against what was offered and/or sold to General Foods.

J. Conclusion

For the reasons set forth above, Nestle's motion for summary judgment of invalidity of the Howell '126 patent will be granted on the ground that it is obvious over the prior art, and Nestle's

motion for summary judgment of invalidity of the Ganiaris '722 patent will be granted on the grounds that it fails to meet the requirements of 35 U.S.C. §112 and that by reason of Canadian patent 811,389 it is invalid under 35 U.S.C. §102 (d).

Counsel for Nestle are requested to prepare a form of order which will implement the conclusions set forth in this opinion and the various determinations which I made from the bench at the four hearings on these motions. The order shall not contain detailed recitals of the factual or legal contentions of the parties. It shall set forth the grounds on which summary judgment was granted as to each patent, the grounds as to which summary judgment was denied as to each patent and, as to each patent, the grounds for summary judgment upon which I did not rule.

It appears to me that if an appeal is to be taken from the order implementing this opinion it would be appropriate that this be done prior to the trial of the remaining second Count of the counterclaim. Should this course be pursued, the form of order should include proposed findings pursuant to Fed.R.Civ.P. 54(b), Curtis-Wright Corp. v. General Electric Co., 446 U.S. 1 (1980); Allis-Chalmers Corp. v. Philadelphia Electric Co., 521 F.2d 360 (3d Cir. 1975).